STIC Search Report
EIC 1700

STIC Database Tracking Number: 196625

TO: Kuo-Liang Peng
Location: REM 10A71
Art Unit : 1712
July 27, 2006

Case Serial Number: 10798872

From: Kathleen Fuller
Location: EIC 1700
REMSEN 4B28
Phone: 571/272-2505
Kathleen.Fuller@uspto.gov

Search Notes

I DID A BROAD SEARCH COVERING ALL CLAIMS AND REQUIRING THAT SOMETHING BE ATTACHED (Y1 UNSPECIFIED) TO THE 2 SILICON ATOMS IN THE RING. I RETRIEVED 54 STRUCTURES WHICH HAD 24 CA REFERENCES, INCLUDING THE APPLICANT, ASSOCIATED WITH THE STRUCTURE/RN'S. I DID NOT LIMIT BY DATE OR UTILITY. I THINK THERE ARE SOME STRUCTURES WITH GOOD DATES, EVEN FOR CLAIM 17. THIS REALLY COVERS EVERY THING OUT THERE AS I NEVER SPECIFIED WHAT Y WAS.

```
=> FILOE REG
FILOE IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> FILE REG
FILE 'REGISTRY' ENTERED AT 14:36:31 ON 27 JUL 2006
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STRUCTURE FILE UPDATES:   25 JUL 2006  HIGHEST RN 896142-63-5
DICTIONARY FILE UPDATES:  25 JUL 2006  HIGHEST RN 896142-63-5

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=> FILE HCAPL
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FILE COVERS 1907 - 27 Jul 2006  VOL 145 ISS 5
FILE LAST UPDATED: 26 Jul 2006  (20060726/ED)

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=> D QUE
L5              STR
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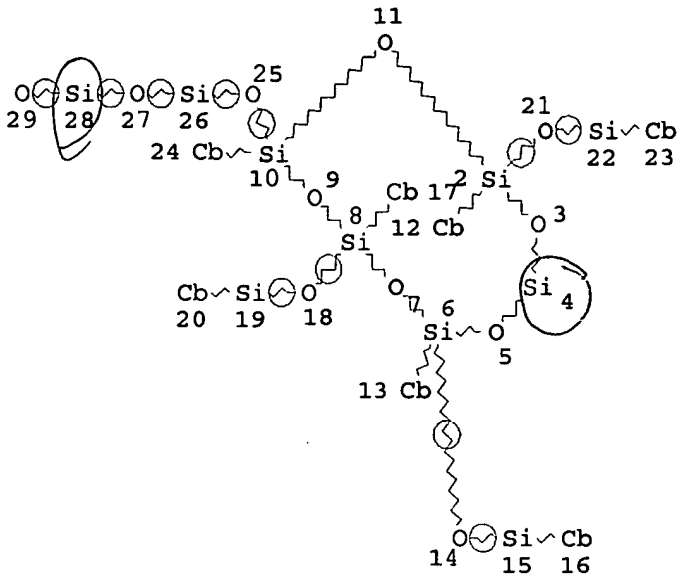

Query covers Claim 1 & all others

Y's would attach at these Silicons: 4 & 28 are required to have a minimum of 3 connections which could be anything

54 structures found

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NODE ATTRIBUTES:
NSPEC   IS R       AT  14
NSPEC   IS R       AT  15
NSPEC   IS R       AT  18
NSPEC   IS R       AT  19
NSPEC   IS R       AT  21
NSPEC   IS R       AT  22
NSPEC   IS R       AT  25
NSPEC   IS R       AT  26
NSPEC   IS R       AT  27
CONNECT IS M3  RC AT   4
CONNECT IS M3  RC AT  28
DEFAULT MLEVEL IS ATOM
GGCAT   IS UNS  AT  12
GGCAT   IS UNS  AT  13
GGCAT   IS UNS  AT  16
GGCAT   IS UNS  AT  17
GGCAT   IS UNS  AT  20
GGCAT   IS UNS  AT  23
GGCAT   IS UNS  AT  24
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  28

STEREO ATTRIBUTES: NONE
L7            54 SEA FILE=REGISTRY SSS FUL L5
L9            24 SEA FILE=HCAPLUS ABB=ON  L7
```

24 CA references, no utility or date limitations

```
=>  D L9 BIB ABS IND HITSTR 1-24

L9   ANSWER 1 OF 24  HCAPLUS  COPYRIGHT 2006 ACS on STN
AN   2006:349593  HCAPLUS
DN   145:46344
TI   Hydrosilylation Polymerization of Double-Decker-Shaped Silsesquioxane
```

Having Hydrosilane with Diynes

AU Seino, Makoto; Hayakawa, Teruaki; Ishida, Yoshihito; Kakimoto, Masa-aki; Watanabe, Kenichi; Oikawa, Hisao

CS Department of Organic and Polymeric Materials, Tokyo Institute of Technology, Tokyo, Meguro-ku, 152-8550, Japan

SO Macromolecules (2006), 39(10), 3473-3475
CODEN: MAMOBX; ISSN: 0024-9297

PB American Chemical Society

DT Journal

LA English

AB New organic-inorg. hybrid polymers were prepared by the hydrosilylation polymerization of double-decker-shaped silsesquioxane (DDSQ) with aromatic diynes. The polymerization proceeded without subsequent hydrosilylation of the resultant double bond to give high mol. weight polymers. These polymers showed high thermal stability owing to main chain composed of DDSQ, double bond, and aromatic groups.

CC 35-7 (Chemistry of Synthetic High Polymers)

ST hydrosilylation polymn hydrosilane silsesquioxane diyne

IT Glass transition temperature
(hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

IT Polymerization
(hydrosilylation; hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

IT Silsesquioxanes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyacetylene-; hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

IT Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(silsesquioxane-; hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

IT **890369-34-3P 890369-42-3P 890369-50-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

IT 75-54-7, Methyldichlorosilane 501-65-5, Diphenylacetylene 2996-92-1, Phenyltrimethoxysilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

IT **890369-26-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(model compound; hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

IT **502925-56-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer; hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

IT **890369-34-3P 890369-42-3P 890369-50-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)

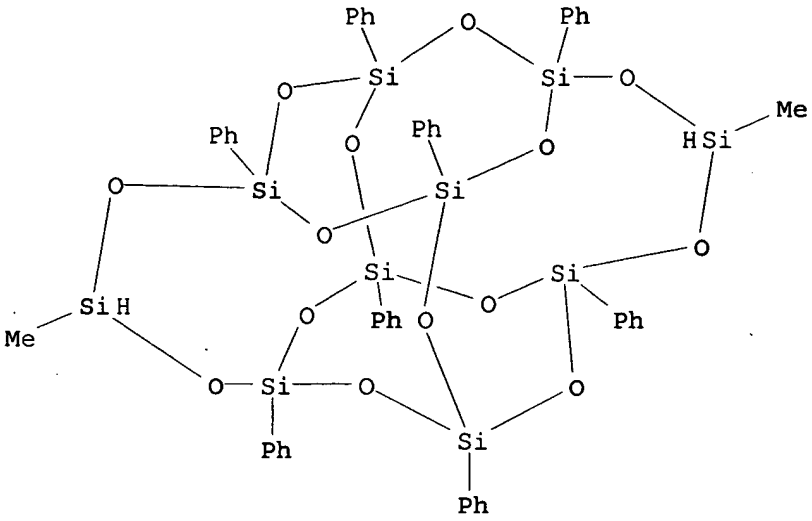
RN 890369-34-3 HCAPLUS

CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-

1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,4-bis(phenylethynyl)benzene (9CI) (CA INDEX NAME)

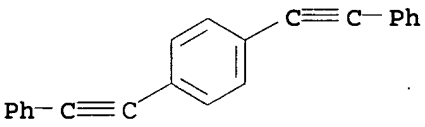
CM 1

CRN 502925-56-6
CMF C50 H48 O14 Si10



CM 2

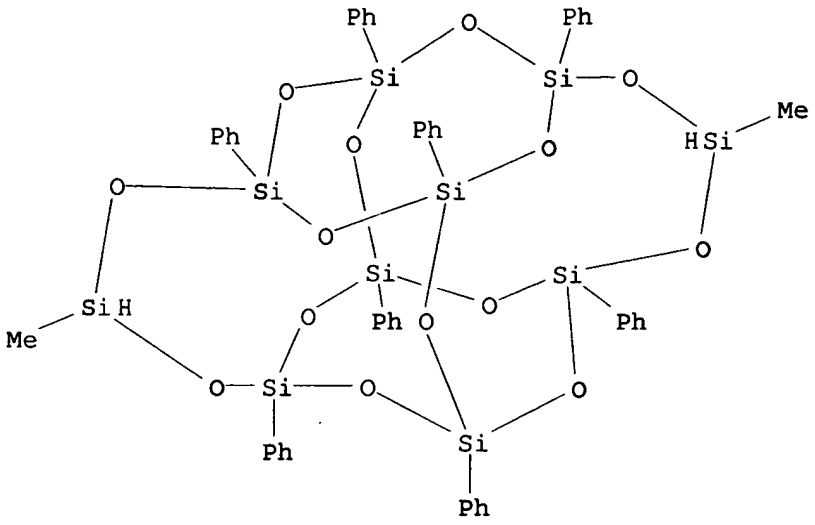
CRN 1849-27-0
CMF C22 H14



RN 890369-42-3 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 9,10-bis(phenylethynyl)anthracene (9CI) (CA INDEX NAME)

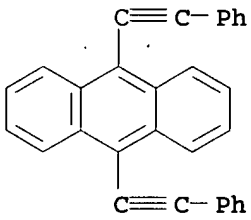
CM 1

CRN 502925-56-6
CMF C50 H48 O14 Si10



CM 2

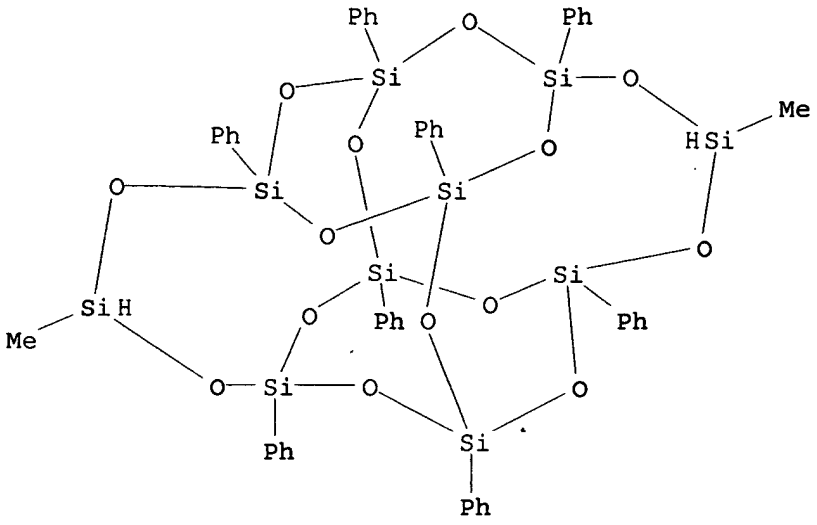
CRN 10075-85-1
CMF C30 H18



RN 890369-50-3 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,4-diethynylbenzene (9CI) (CA INDEX NAME)

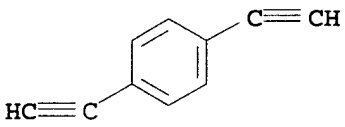
CM 1

CRN 502925-56-6
CMF C50 H48 O14 Si10



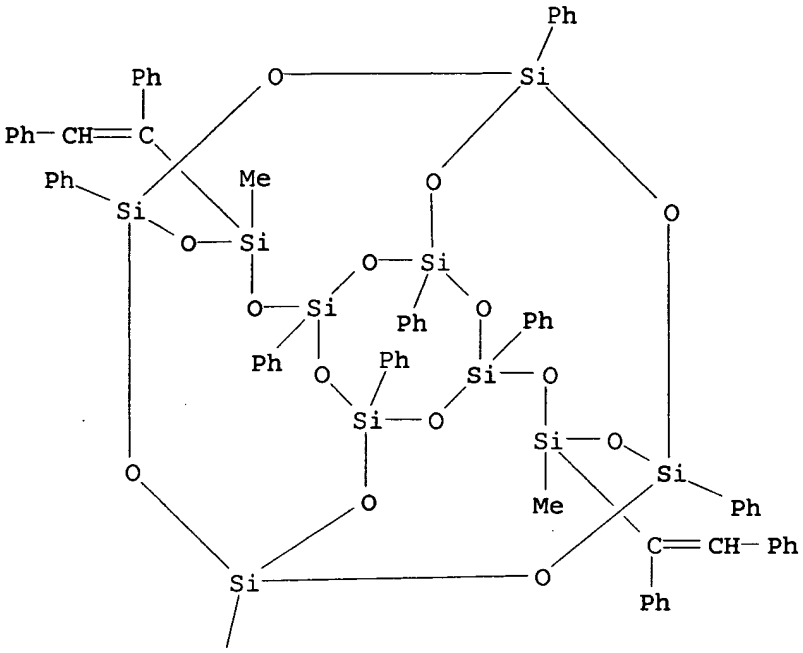
CM 2

CRN 935-14-8
CMF C10 H6



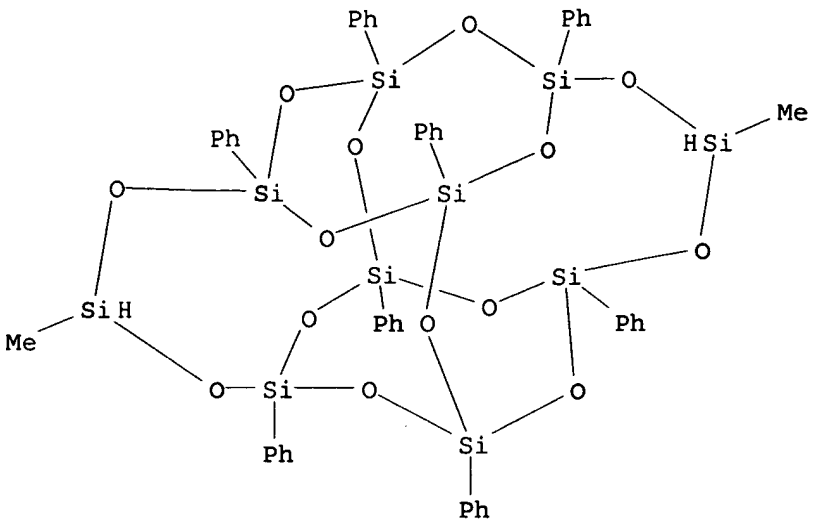
IT **890369-26-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(model compound; hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)
RN 890369-26-3 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-bis(1,2-diphenylethenyl)-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

IT **502925-56-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer; hydrosilylation polymerization of double-Decker-shaped silsesquioxane having hydrosilane with diynes)
RN 502925-56-6 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

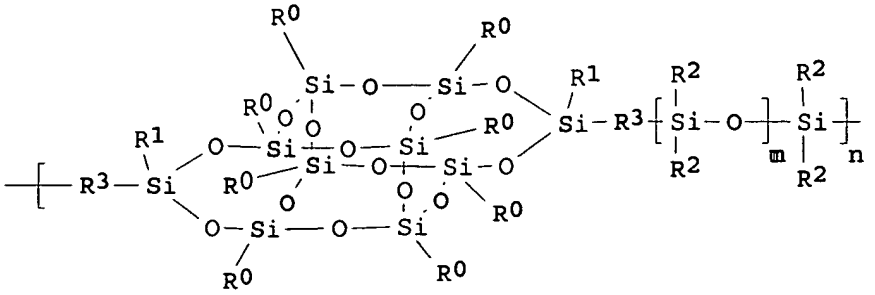


RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2006:73308 HCAPLUS
DN 144:171836
TI Silicon compounds bearing cage-type silsesquioxane structures with improved dielectric properties, hardness, and heat, weather, and chemical resistance
IN Kunitake, Masashi; Sakai, Kiyoshi; Hirabayashi, Chiaki; Morimoto, Yoshitaka
PA Chisso Corp., Japan; Chisso Petrochemical Corporation
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2006022207	A2	20060126	JP 2004-201561	20040708
PRAI JP 2004-201561		20040708		

GI



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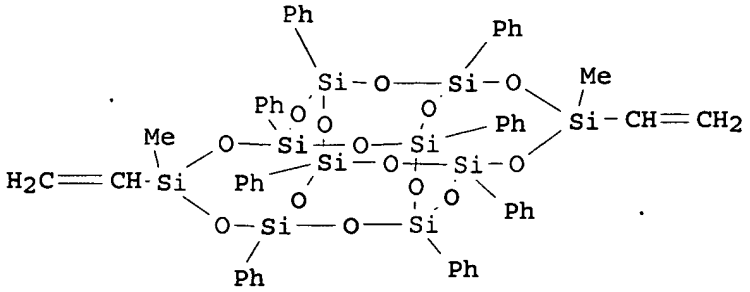


II

AB The compds., useful for elec. and electronic materials, have structure units I [m = 1-30; R0 = halo- or C1-20 alkyl-(un)substituted aryl, cycloalkyl; R1,2 = (un)substituted aryl or arylalkyl; R3 = CH2CH2, CH2CH2CH2, O, etc.]. Thus, reacting 1.8 g II and 0.2 g HMe2SiOSiMe2H in the presence of Karstedt hydrosilylation catalyst resulted in a polymer with Mn 17,100 and Mw 103,500, which gave a transparent film and a tubular molding.

CC 37-3 (Plastics Manufacture and Processing)

ST silsesquioxane cage structure dielec film transparency; siloxane silsesquioxane heat resistance electronic part; methyldisiloxane hydrosilylation cage silsesquioxane moldability

IT Silsesquioxanes
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polysiloxane-; siloxane-silsesquioxanes bearing cage structures with improved moldability and dielec. properties, hardness, and heat, weather, and chemical resistance)

IT Polysiloxanes, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(silsesquioxane-; siloxane-silsesquioxanes bearing cage structures with improved moldability and dielec. properties, hardness, and heat, weather, and chemical resistance)

IT **874287-12-4P 874287-13-5P 874287-15-7P 874287-16-8P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(siloxane-silsesquioxanes bearing cage structures with improved moldability and dielec. properties, hardness, and heat, weather, and chemical resistance)

IT **874287-12-4P 874287-13-5P 874287-15-7P 874287-16-8P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(siloxane-silsesquioxanes bearing cage structures with improved moldability and dielec. properties, hardness, and heat, weather, and chemical resistance)

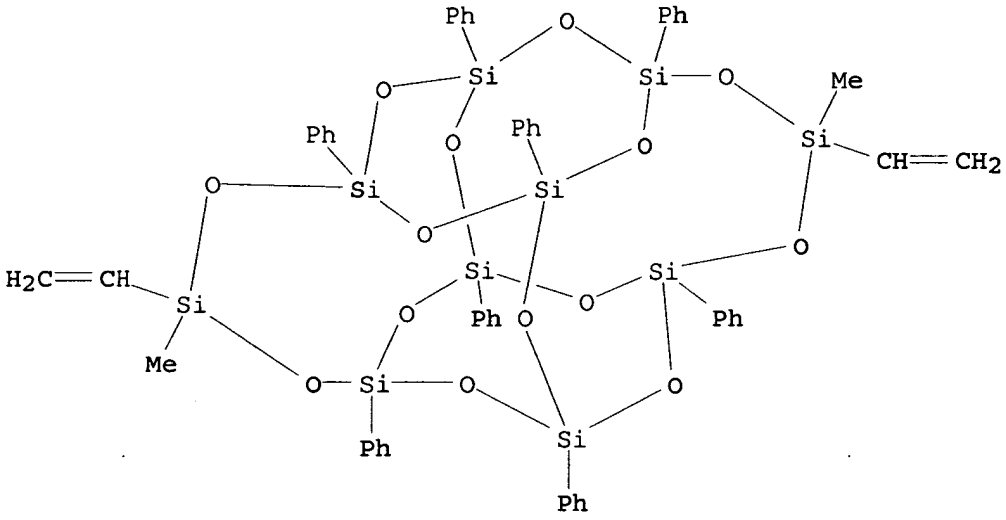
RN 874287-12-4 HCAPLUS

CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,1,3,3-tetramethyldisiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 502925-64-6

CMF C54 H52 O14 Si10



CM 2

CRN 3277-26-7

CMF C4 H14 O Si2

$Me_2SiH-O-SiHMe_2$

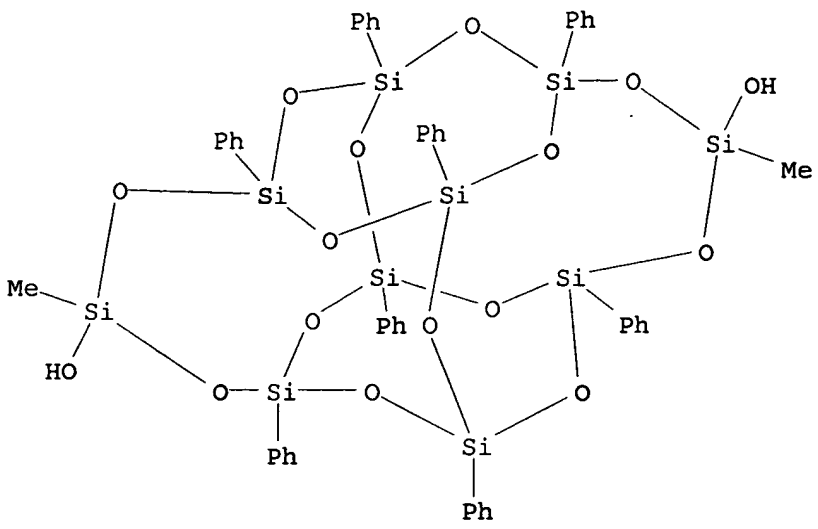
RN 874287-13-5 HCAPLUS

CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diol, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,3-dichloro-1,1,3,3-tetramethyldisiloxane (9CI) (CA INDEX NAME)

CM 1

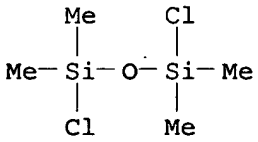
CRN 502925-61-3

CMF C50 H48 O16 Si10



CM 2

CRN 2401-73-2
CMF C4 H12 Cl2 O Si2



RN 874287-15-7 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diol, 1,3,5,7,9,11,13,15,17,19-decaphenyl-, polymer with 1,3-dichloro-1,1,3,3-tetramethyldisiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 874287-14-6
CMF C60 H52 O16 Si10

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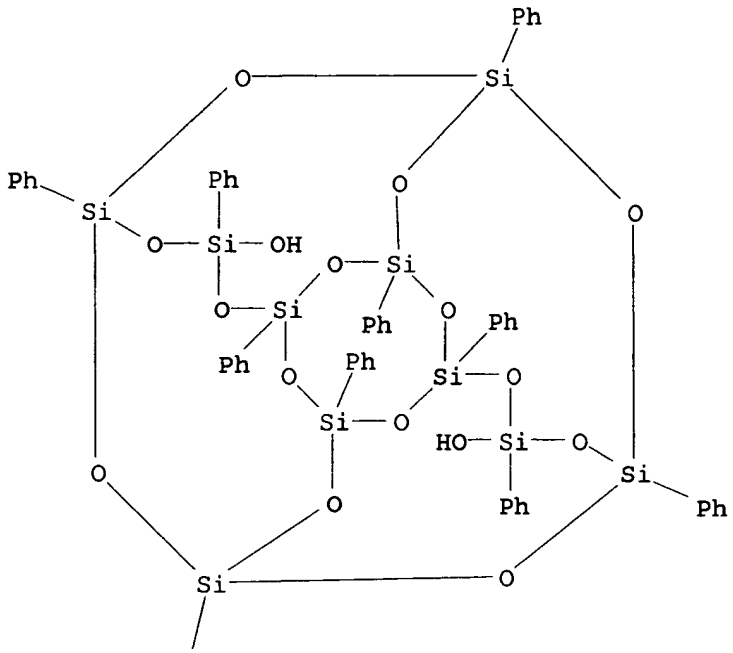
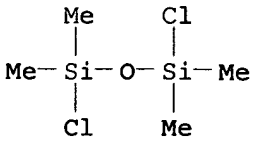


PAGE 2-A

CM 2

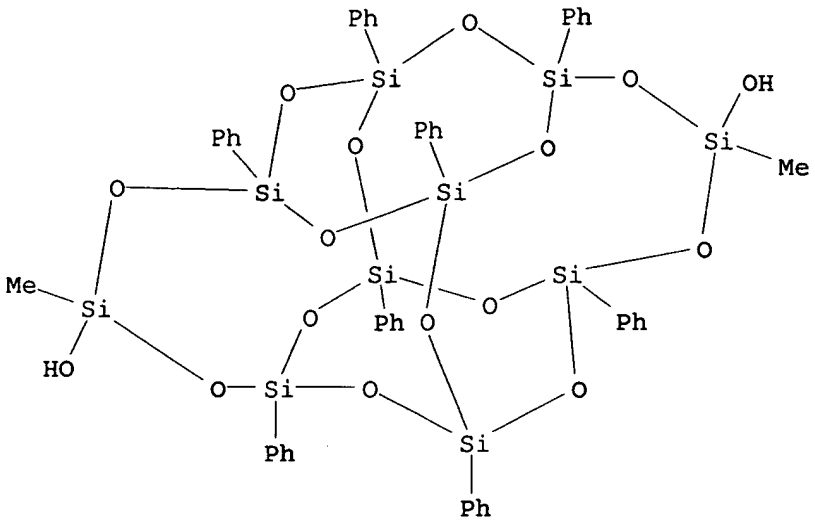
CRN 2401-73-2
CMF C4 H12 Cl2 O Si2



RN 874287-16-8 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diol, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,5-dichloro-1,1,3,3,5,5-hexamethyltrisiloxane (9CI) (CA INDEX NAME)

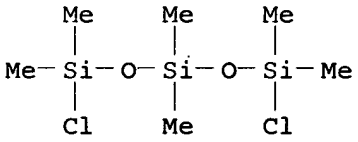
CM 1

CRN 502925-61-3
CMF C50 H48 O16 Si10



CM 2

CRN 3582-71-6
CMF C6 H18 Cl2 O2 Si3



L9 ANSWER 3 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:501492 HCAPLUS
DN 144:193673
TI Polyhedral oligomeric silsesquioxanes: application to flame retardant textiles
AU Bourbigot, Serge; le Bras, Michel; Flambard, Xavier; Rochery, Maryline; Devaux, Eric; Lichtenhan, Joseph D.
CS Laboratoire des Procedes d'Elaboration des Revetements Fonctionnels, UPRES EA 1040, Universite des Sciences et Technologies de Lille, Villeneuve d'Ascq, F-59652, Fr.
SO Fire Retardancy of Polymers: New Applications of Mineral Fillers, [European Meeting on Fire Retardancy and Protection of Materials], 9th, Lille, France, Sept. 17-19, 2003 (2005), Meeting Date 2003, 189-201. Editor(s): Le Bras, Michel. Publisher: Royal Society of Chemistry, Cambridge, UK.
CODEN: 69GXH7; ISBN: 0-85404-582-1
DT Conference
LA English
AB The use of polyhedral oligomeric silsesquioxanes (POSS) as flame retardant in textiles incorporated in yarns and in coating is investigated. Polypropylene (PP) containing POSS as multifilament yarns reveals that POSS permits the stabilization of PP; however, the flammability is not enhanced in terms of rate of heat release (RHR), and only the time to ignition is much longer. It offers, therefore, the opportunity to make relatively

heat resistance fabrics with low ignition. Concurrently, thermoplastic polyurethane (TPU)-POSS coatings have been synthesized and the action of POSS as flame retardant has been demonstrated. In addition, the use of poly(vinylsilsesquioxnae) (FQ-POSS) permits both the increase of time of ignition and the decrease of peak of RHR. These results thus offer a promising route for flame retarding textile using POSS.

CC 40-10 (Textiles and Fibers)
Section cross-reference(s): 42

ST polyhedral oligomeric silsesquioxane flame retardant textile coating; polypropylene textile polyhedral oligomeric silsesquioxane flame retardant; thermoplastic polyurethane coating polyhedral oligomeric silsesquioxane flame retardant

IT Coating materials
Fireproofing agents
Flammability
Ignition
Thermal stability
(applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

IT Polypropene fibers, uses
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

IT Polyurethanes, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(coatings; applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

IT Polyester fibers, uses
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyurethane-coated; applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

IT Heat
(release rate of; applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

IT 25085-53-4, Isotactic polypropylene
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(PPH 7060; applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

IT **18923-59-6**, DodecaPhenyl POSS 188356-58-3, Poly(octavinylsilsesquioxane)
RL: TEM (Technical or engineered material use); USES (Uses)
(applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

IT 97385-35-8, 1,4-Butanediol-IPDI-polytetramethylene glycol copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(coatings; applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

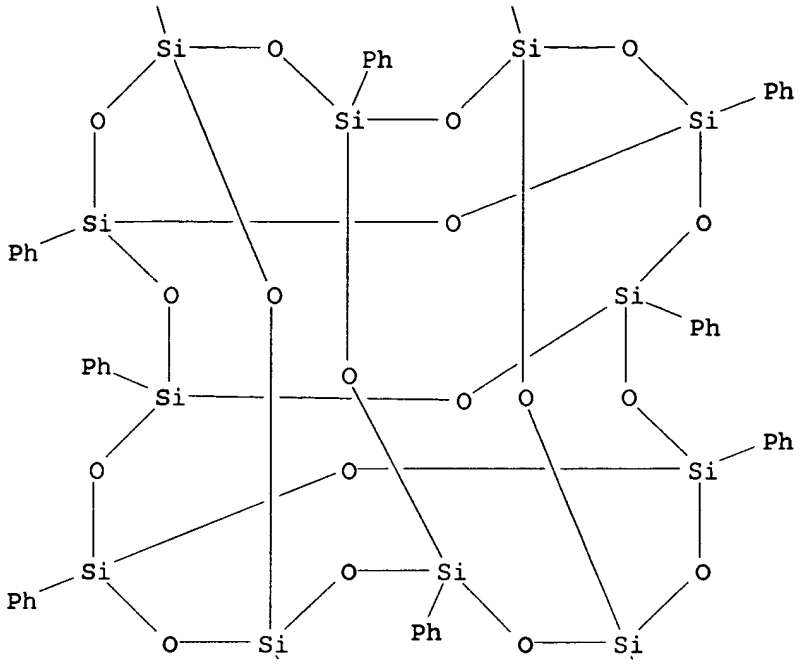
IT **18923-59-6**, DodecaPhenyl POSS
RL: TEM (Technical or engineered material use); USES (Uses)
(applications of polyhedral oligomeric silsesquioxanes as flame retardants for polypropylene textiles and thermoplastic polyurethane coatings)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A



PAGE 3-A

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:434352 HCAPLUS
DN 143:133780
TI Synthesis of amino-containing oligophenylsilsesquioxanes
AU Kim, S. G.; Choi, J.; Tamaki, R.; Laine, Richard M.
CS Departments of Chemistry, and Materials Science and Engineering, and the Macromolecular Science and Engineering Center, University of Michigan, Ann Arbor, MI, 48109-2136, USA
SO Polymer (2005), 46(12), 4514-4524
CODEN: POLMAG; ISSN: 0032-3861
PB Elsevier Ltd.
DT Journal
LA English
AB A series of aminophenylsilsesquioxanes were prepared from octaphenylsilsesquiox-ane (OPS), dodecaphenylsilsesquioxane (DPS) and two polyphenylsilsesquioxanes, one a low mol. weight LMW oligomer (PPS) and the other a high mol. weight (HMW) PPS (Mn of 1.3+103, PPS) and two polyhedral materials. LMS and HMW PPS were obtained by polycondensation of PhSi(OEt)3 to form oligomeric, incompletely-condensed frameworks. The oligomer was used as is for nitration to produce LMW polynitrophenylsilsesquioxane (PNPS). However, optimization of hydrolysis

and condensation processes using KOH as catalyst, led to a route to HMW PPS (Mn of 2.5+104, Mw of 6.1+104), which was best prepared in EtOH. OPS, DPS, LMW PPS (Mn of 1.3+103), and HMW PPS (Mn of 2.5+104), were nitrated using 90% fuming HNO3, and then reduced using triethylamine, formic acid, and 5% Pd/C in THF. The products were characterized using 1H, 13C, and 29Si NMR, GPC, FT-IR, and TGA. Amino groups (NH2) were introduced primarily in meta and ortho positions in a 70:25 ratio with the remainder being para. It was determined that little or no OPS or DPS cage cleavage occurred coincident with nitration or reduction if the latter process was run at 40 °C, whereas the MW of HMW PPS decreased to 1.6+103 after nitration and reduction The Mn suggests that for both LMW and HMW PPS, the same PAPS product forms, which consists of monomer, dimer, and trimer species.

CC 35-8 (Chemistry of Synthetic High Polymers)

ST amino oligophenylsilsesquioxane

IT Silsesquioxanes
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of amino-containing oligophenylsilsesquioxanes)

IT 160511-97-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(asumed monomer; synthesis of amino-containing oligophenylsilsesquioxanes)

IT 780-69-8 **18923-59-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of amino-containing oligophenylsilsesquioxanes)

IT 5256-79-1P, Octaphenylsilsesquiox-ane 858371-10-5P **858371-12-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of amino-containing oligophenylsilsesquioxanes)

IT 160511-97-7DP, reaction products with nitric acida 858371-11-6P **858371-13-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of amino-containing oligophenylsilsesquioxanes)

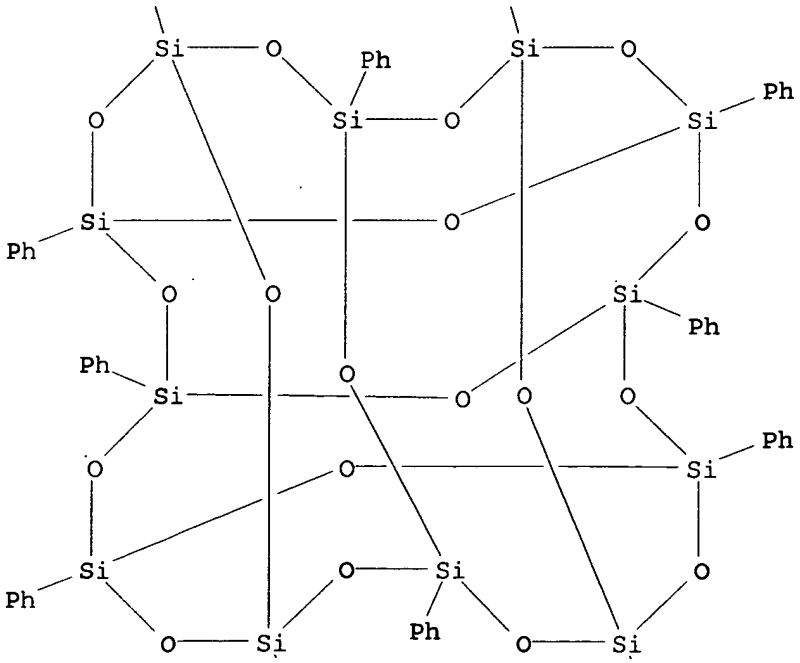
IT **18923-59-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of amino-containing oligophenylsilsesquioxanes)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A

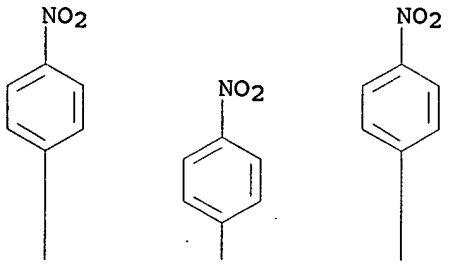


PAGE 3-A

Ph Ph

IT **858371-12-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of amino-containing oligophenylsilsesquioxanes)
RN 858371-12-7 HCAPLUS
CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecakis(4-nitrophenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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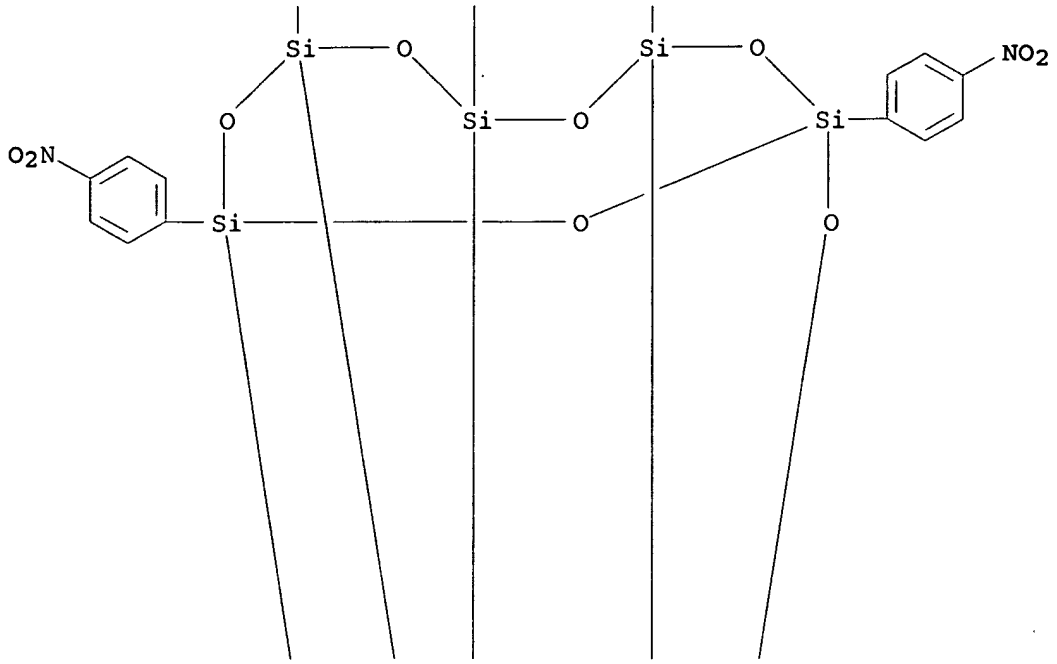

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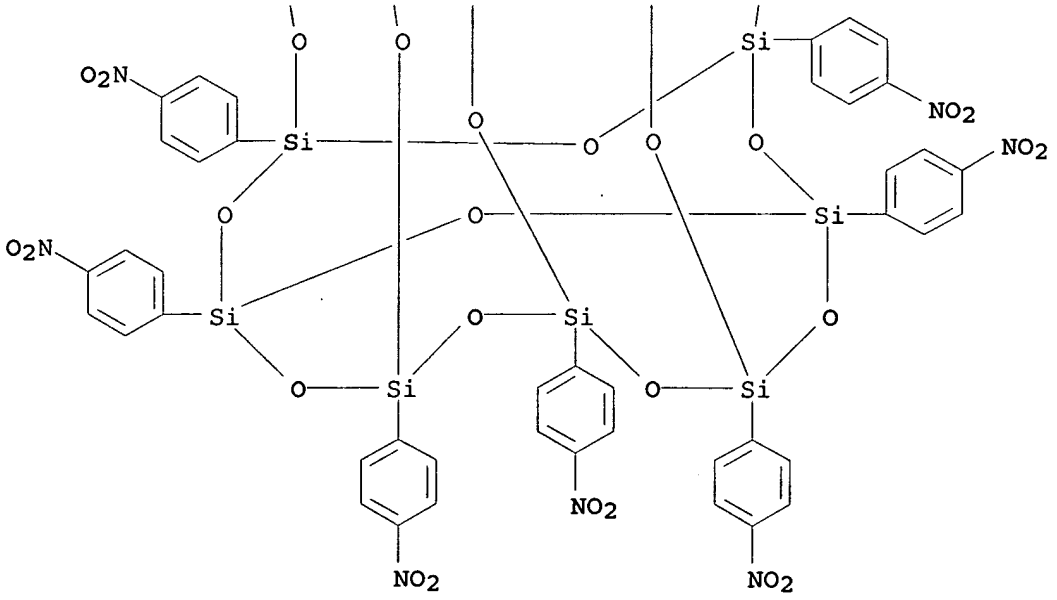
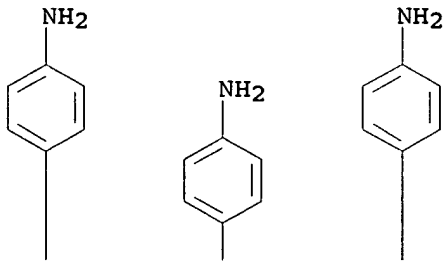


IT **858371-13-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of amino-containing oligophenylsilsesquioxanes)
RN 858371-13-8 HCAPLUS
CN Benzenamine, 4,4',4'',4''',4'''',4''''',4'''''',4''''''',4'''''''',4''''''''

'''',4''''''''''',4''''''''''''-heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane-1,3,5,7,9,11,13,15,17,19,21,23-dodecayldodecakis- (9CI) (CA INDEX NAME)

PAGE 1-A



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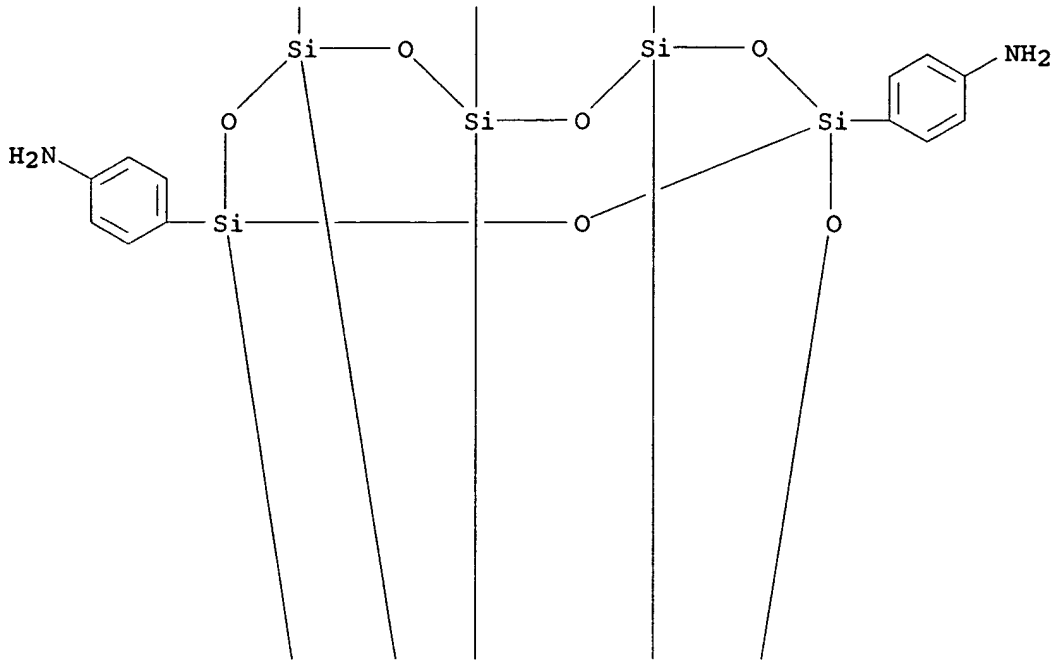
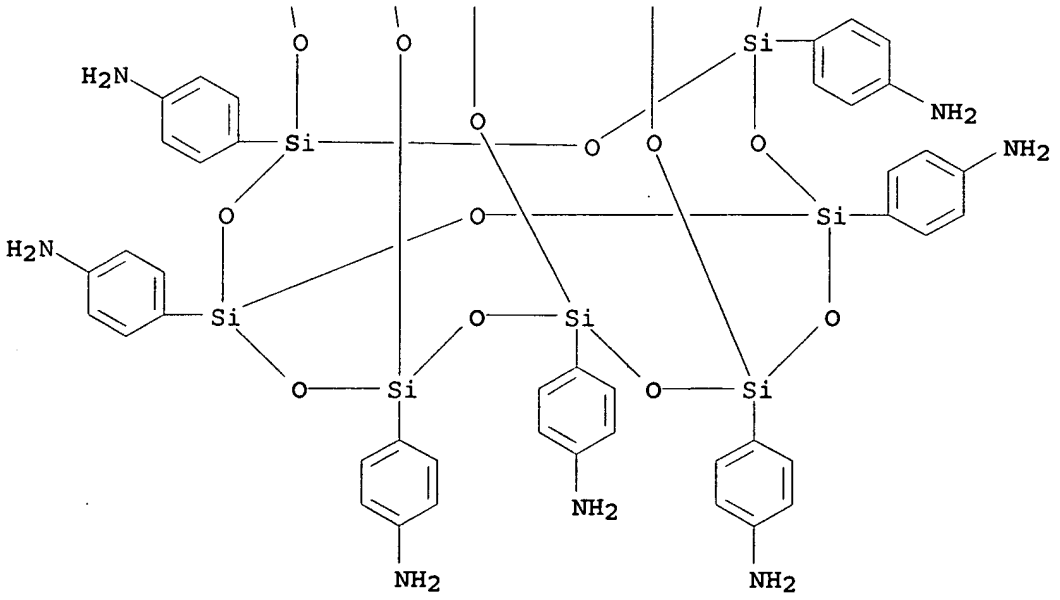


PAGE 3-A



RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:429475 HCAPLUS

DN 142:483087
TI Electrically charged porous plastic film containing POS(S) additive and its production
IN Karttunen, Mikko; Kortet, Satu; Paajanen, Mika
PA Valtion Teknillinen Tutkimuskeskus, Finland
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005044902	A1	20050519	WO 2004-FI652	20041104
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	FI 2003001607	A	20050507	FI 2003-1607	20031106
	EP 1680461	A1	20060719	EP 2004-798261	20041104
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
PRAI	FI 2003-1607	A	20031106		
	WO 2004-FI652	W	20041104		

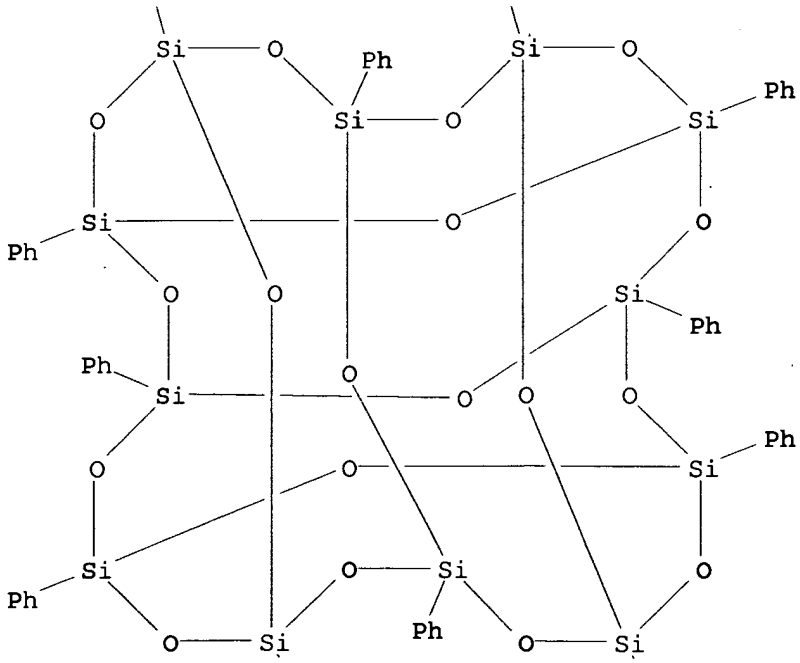
AB Title plastic film is prepared from a blend comprising a polymer selected from polypropylene, cyclic olefin polymers, polymethylpentene, polyethylene terephthalate, polybutene terephthalate, polyethylene naphthalate, and polyether-polyimide, and an additive comprising POS(S) chems., such as dodecaphenyl-POSS (C12H60O18Si12) and isooctyl-POSS (C48H88O12Si8), and pores are generated by biaxially stretching the preform blank of the above blend. Thus, a blend containing polypropylene (Borclean HB 300BF) and octamethyl-POSS additive (Hybrid Plastics MS 0830) was used to produce porous biaxially-oriented plastic film, which was then charged by d.c. corona treatment.
IC ICM C08J005-18
ICS B29C055-00
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37, 76
ST elec charged porous plastic film octamethyl POSS polypropylene
IT Porous materials
(films; production of elec. charged porous plastic films)
IT Polyimides, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polyether-; production of elec. charged porous plastic films)
IT Polyethers, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(polyimide-; production of elec. charged porous plastic films)
IT Cycloalkenes
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered

material use); PROC (Process); USES (Uses)
(polymers; production of elec. charged porous plastic films)
IT Films
(porous; production of elec. charged porous plastic films)
IT Plastic films
(production of elec. charged porous plastic films)
IT Polyesters, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(production of elec. charged porous plastic films)
IT 9003-07-0, Polypropylene
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(Borclean HB 300BF; production of elec. charged porous plastic films)
IT 221326-46-1, MS 0825
RL: MOA (Modifier or additive use); USES (Uses)
(Hybrid Plastics MS 0825; production of elec. charged porous plastic films)
IT 17865-85-9, OctaMethyl-POSS
RL: MOA (Modifier or additive use); USES (Uses)
(Hybrid Plastics MS 0830; production of elec. charged porous plastic films)
IT 26007-43-2, Topas 6015
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(Topas 8007; production of elec. charged porous plastic films)
IT 9020-32-0 26062-94-2, Polybutylene terephthalate
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(assumed monomers; production of elec. charged porous plastic films)
IT 3809-28-7 5256-79-1 **18923-59-6** 51777-38-9 268202-73-9 851814-19-2 851814-21-6
RL: MOA (Modifier or additive use); USES (Uses)
(production of elec. charged porous plastic films)
IT 9016-80-2, Polymethylpentene 9020-73-9, Polyethylene naphthalate 24968-12-5, Polybutylene terephthalate 25038-59-9, PET polymer, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(production of elec. charged porous plastic films)
IT **18923-59-6**
RL: MOA (Modifier or additive use); USES (Uses)
(production of elec. charged porous plastic films)
RN 18923-59-6 HCAPLUS
CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

Ph Ph

PAGE 2-A



PAGE 3-A

Ph Ph

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 6 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:13799 HCAPLUS
DN 142:103450
TI Varnish composition for liquid crystal alignment film in liquid crystal displays
IN Hirai, Yoshiharu; Murata, Shizuo
PA Chisso Corp., Japan; Chisso Petrochemical Corporation
SO Jpn. Kokai Tokkyo Koho, 90 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005004177	A2	20050106	JP 2004-111909	20040406
PRAI JP 2003-138487	A	20030516		

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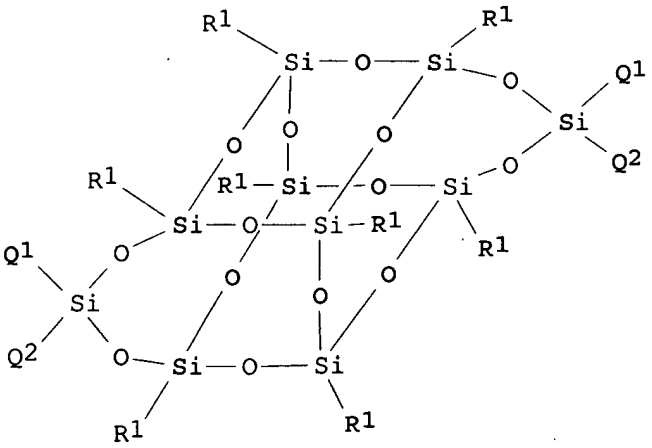
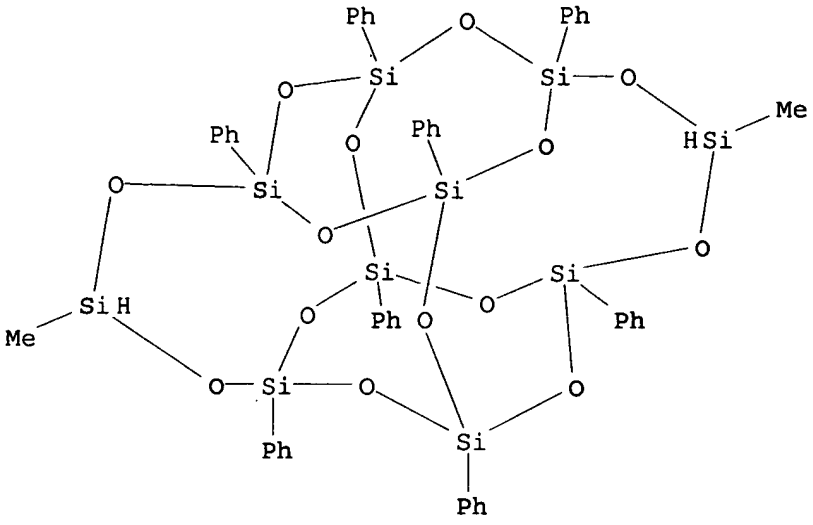


I

AB The composition contains a polymer made of compound I(R1 = H, C1-45 alkyl, aryl, etc.; Q1 = H, halo, C1-10 alkyl, etc.; Q2 = -(Z0)k-(-A1-Z1-)l-(-A2Z2-)m-(-A3-Z3)n-(-A4-)p-Z4-Y; A1-4 = 1,4-cyclohexylene, 1,4-phenylene; Z0 = C1-10 alkylene; Z1-3 = -O-, -CH=CH-, -CC-, etc.;Z4 = single bond, C1-10 alkylene). The composition shows high mech. strength, good contact with a substrate, and good storageability.

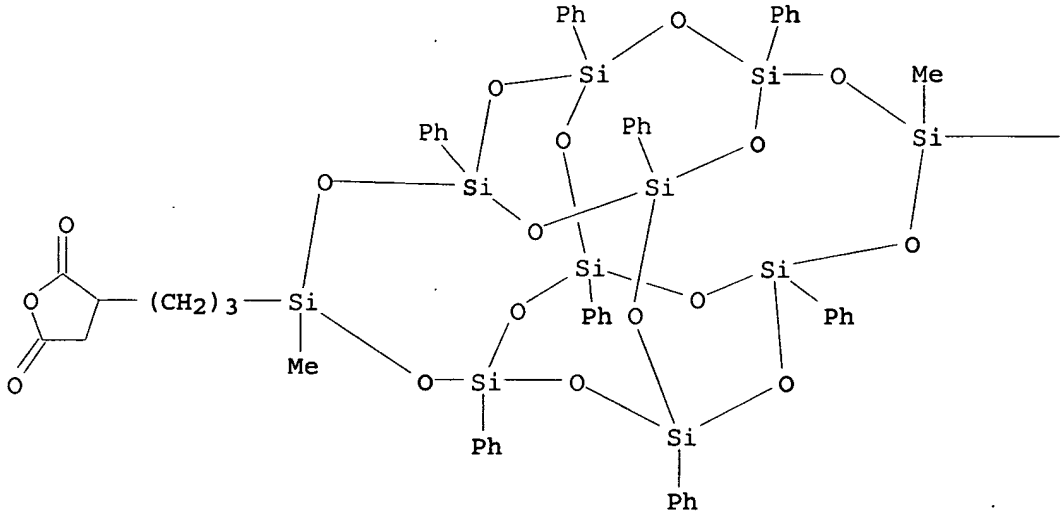
IC ICM G02F001-1337
ICS C08G063-695; C08G073-10

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST varnish compn liq crystal alignment film display
IT Molecular orientation
(liquid crystal alignment film; varnish composition for liquid crystal alignment
film in liquid crystal displays)
IT Liquid crystal displays
(varnish composition for liquid crystal alignment film in liquid crystal displays)
IT Silsesquioxanes
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(varnish composition for liquid crystal alignment film in liquid crystal displays)
IT 75-54-7, Methyldichlorosilane 7539-12-0, Allylsuccinic acid anhydride 502925-53-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(varnish composition for liquid crystal alignment film in liquid crystal displays)
IT **502925-56-6P 502925-65-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(varnish composition for liquid crystal alignment film in liquid crystal displays)
IT **819053-30-0P 819053-31-1P 819053-32-2P**
819053-33-3P 819053-34-4P
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(varnish composition for liquid crystal alignment film in liquid crystal displays)
IT **502925-56-6P 502925-65-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(varnish composition for liquid crystal alignment film in liquid crystal displays)
RN 502925-56-6 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)



RN 502925-65-7 HCAPLUS
CN 2,5-Furandione, 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro- (9CI) (CA INDEX NAME)

PAGE 1-A



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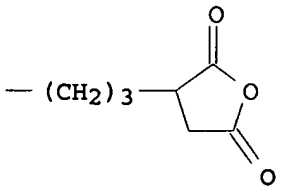


IT **819053-30-0P 819053-31-1P 819053-32-2P**
819053-33-3P 819053-34-4P
RL: RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(varnish composition for liquid crystal alignment film in liquid crystal displays)

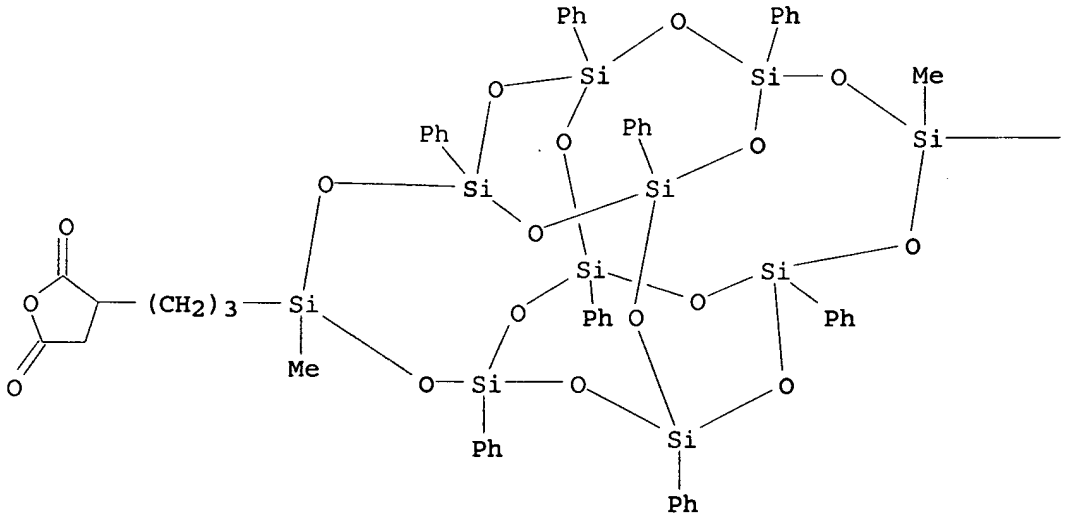
RN 819053-30-0 HCAPLUS

CN Cyclobuta[1,2-c:3,4-c']difurantetrone, tetrahydro-, polymer with 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro-2,5-furandione] and 4,4'-methylenebis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 502925-65-7
CMF C64 H64 O20 Si10

PAGE 1-A



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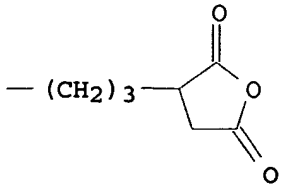
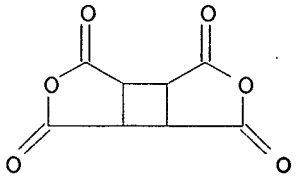


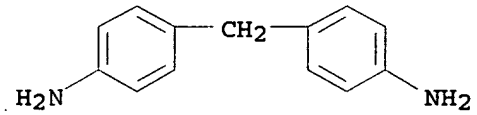
CM 2

CRN 4415-87-6
CMF C8 H4 O6



CM 3

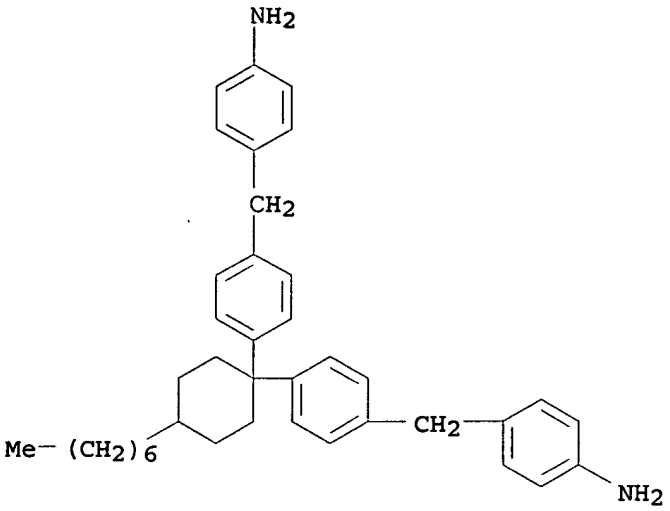
CRN 101-77-9
CMF C13 H14 N2



RN 819053-31-1 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro-2,5-furandione], 4,4'-ethylidenebis[benzenamine] and 4,4'-[(4-heptylcyclohexylidene)bis(4,1-phenylenemethylene)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

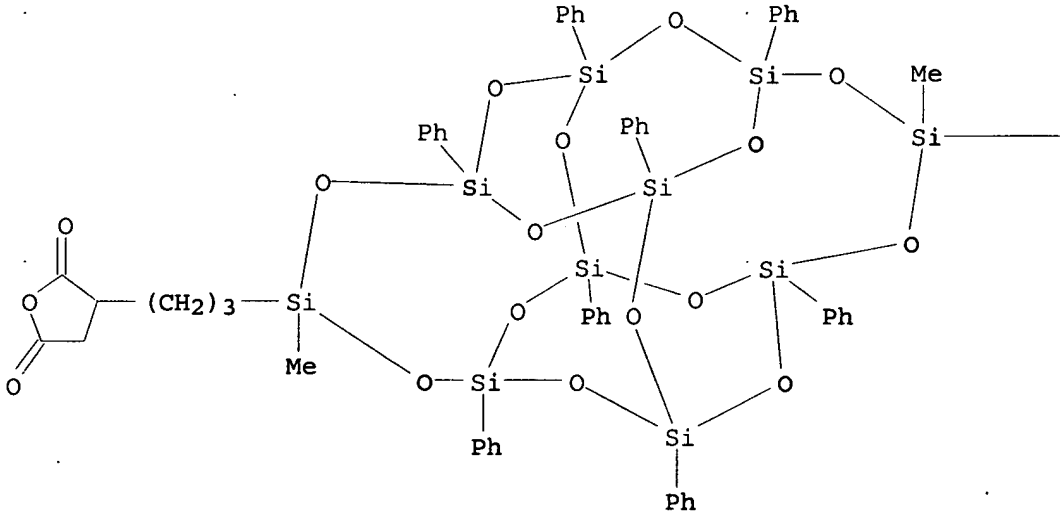
CRN 674292-23-0
CMF C39 H48 N2



CM 2

CRN 502925-65-7
CMF C64 H64 O20 Si10

PAGE 1-A



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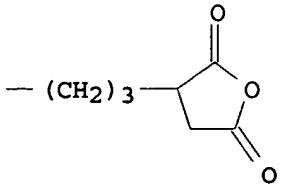
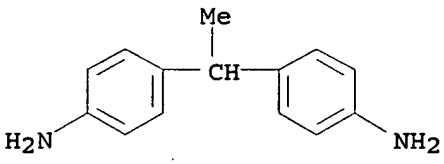


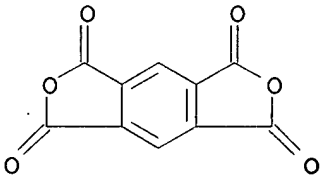
CM 3

CRN 14755-35-2
CMF C14 H16 N2



CM 4

CRN 89-32-7
CMF C10 H2 O6

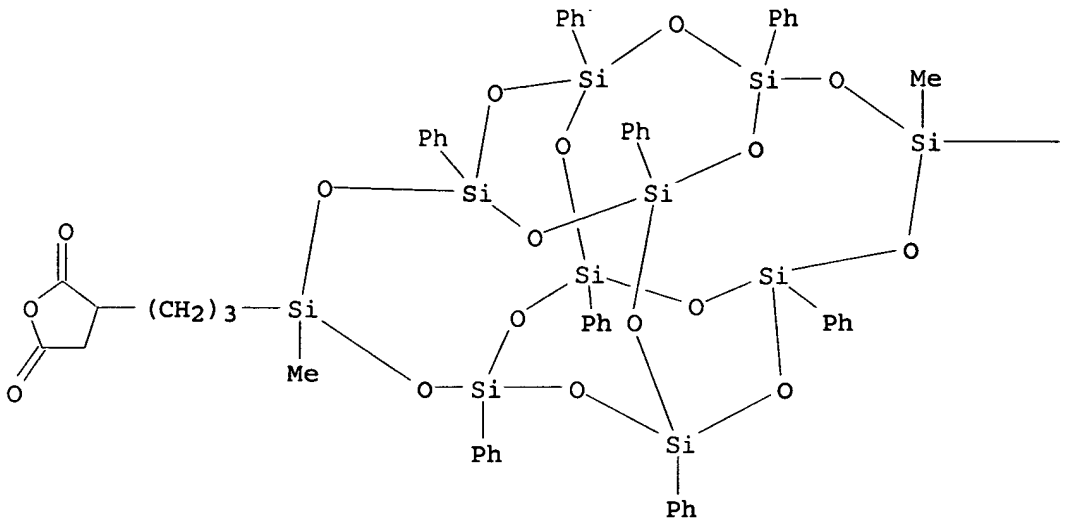


RN 819053-32-2 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro-2,5-furandione] and 5-[[4-[(trans,trans)-4'-pentyl[1,1'-bicyclohexyl]-4-yl]phenyl]methyl]-1,3-benzenediamine (9CI) (CA INDEX NAME)

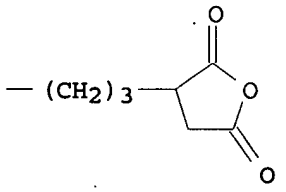
CM 1

CRN 502925-65-7
CMF C64 H64 O20 Si10

PAGE 1-A



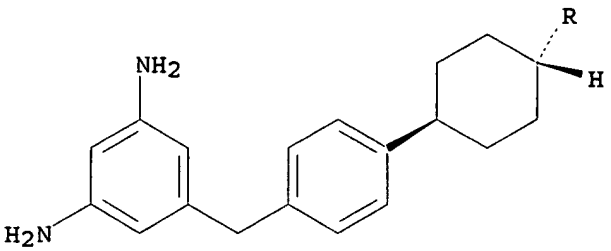
PAGE 1-B

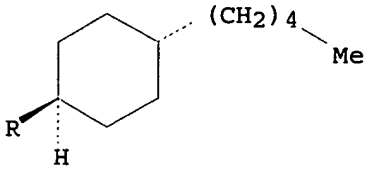


CM 2

CRN 433976-67-1
CMF C30 H44 N2

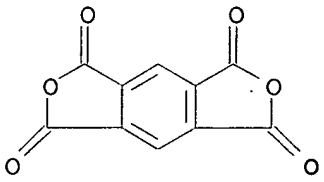
Relative stereochemistry.





CM 3

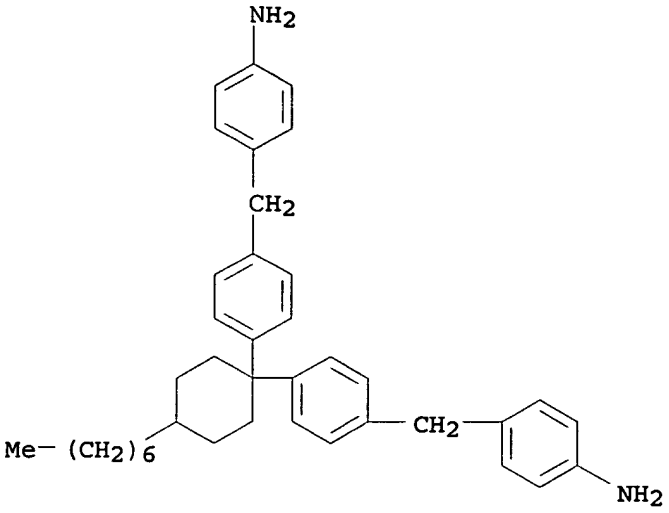
CRN 89-32-7
CMF C10 H2 O6



RN 819053-33-3 HCAPLUS
CN Cyclobuta[1,2-c:3,4-c']difurantetrone, tetrahydro-, polymer with 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro-2,5-furandione], 4,4'-ethylidenebis[benzenamine] and 4,4'-[(4-heptylcyclohexylidene)bis(4,1-phenylenemethylene)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

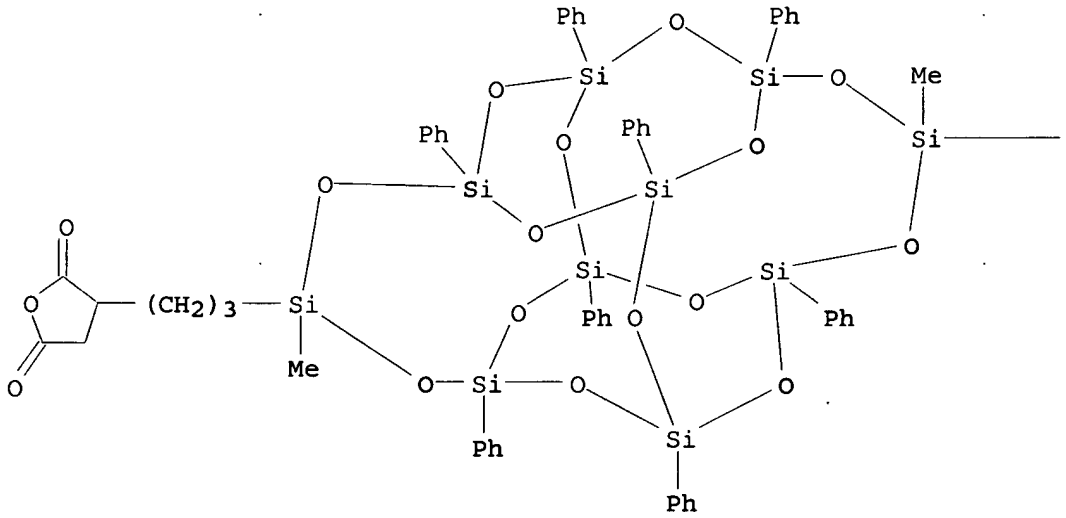
CRN 674292-23-0
CMF C39 H48 N2



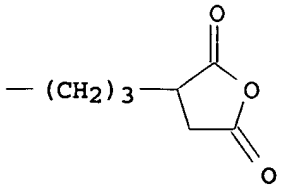
CM 2

CRN 502925-65-7
CMF C64 H64 O20 Si10

PAGE 1-A

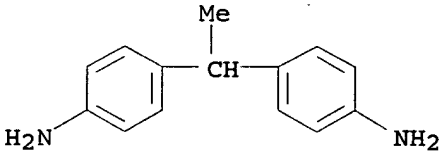


PAGE 1-B



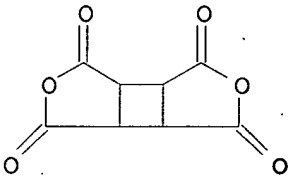
CM 3

CRN 14755-35-2
CMF C14 H16 N2



CM 4

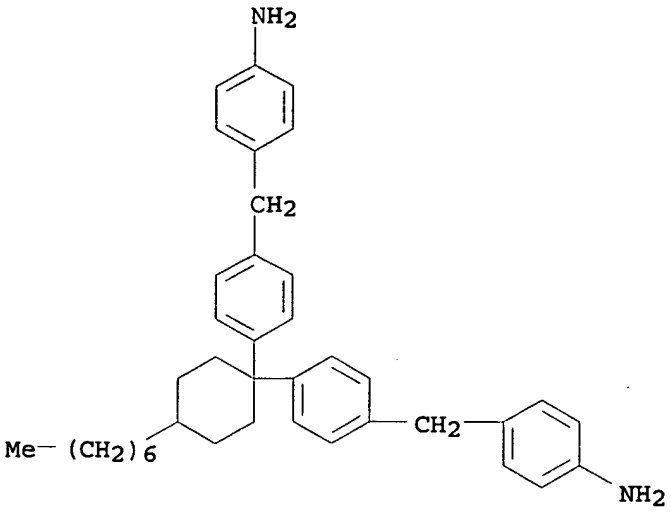
CRN 4415-87-6
CMF C8 H4 O6



RN 819053-34-4 HCAPLUS
CN 1,4-Benzenedicarbonyl dichloride, polymer with 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro-2,5-furandione], 4,4'-ethylidenebis[benzenamine] and 4,4'-[(4-heptylcyclohexylidene)bis(4,1-phenylenemethylene)]bis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

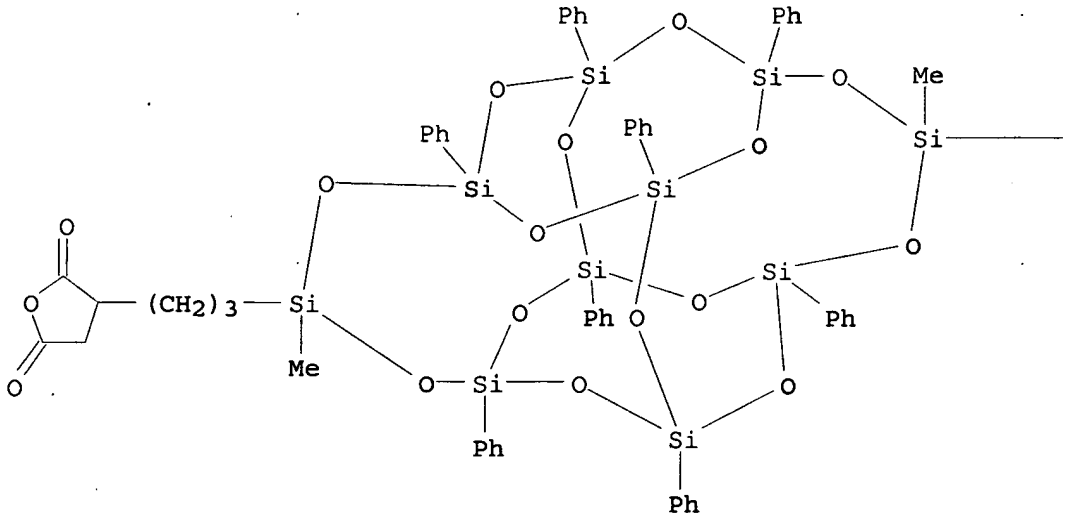
CRN 674292-23-0
CMF C39 H48 N2



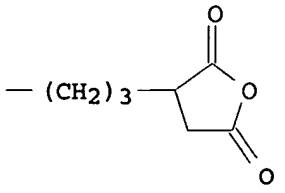
CM 2

CRN 502925-65-7
CMF C64 H64 O20 Si10

PAGE 1-A

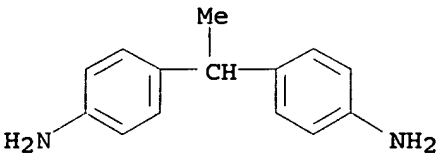


PAGE 1-B



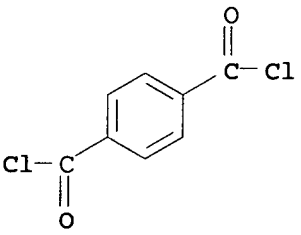
CM 3

CRN 14755-35-2
CMF C14 H16 N2



CM 4

CRN 100-20-9
CMF C8 H4 Cl2 O2



L9 ANSWER 7 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:1014271 HCAPLUS
DN 142:7268
TI Compounds and polymers having silsesquioxane skeleton and their manufacture
IN Inagaki, Junichi; Sasata, Yasuyuki; Kato, Takashi
PA Chisso Corp., Japan; Chisso Petrochemical Corporation
SO Jpn. Kokai Tokkyo Koho, 128 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

applicants

PI JP 2004331647 A2 20041125 JP 2004-53219 20040227
US 2005009982 A1 20050113 US 2004-798872 20040312
PRAI JP 2003-67768 A 20030313
JP 2003-114221 A 20030418
JP 2004-53219 A 20040227
OS MARPAT 142:7268
AB The title compds. having specific polyhedral cage shape with substitution and linking groups on several sites, are used to incorporate into other polymers for improving their heat resistance and dielec. property.
IC ICM C07F007-21
ICS B32B027-00; C08F030-08; C08G059-30; C08G063-695; C08G073-10; C08G077-04; C08G085-00; C09D005-00; C09D133-08; C09D133-10; C09D163-00; C09D167-00; C09D177-00; C09D179-08; C07B061-00
CC 37-3 (Plastics Manufacture and Processing)
ST cage silsesquioxane reactant polymer modification; POSS silsesquioxane reactant polymer modification; polyhedral oligomeric silsesquioxane polymer modification
IT Silsesquioxanes
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(epoxy-; manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)
IT Heat-resistant materials
(manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)
IT Polyamic acids
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)
IT Silsesquioxanes
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyester-; manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)
IT Silsesquioxanes
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyimide-; manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)
IT Epoxy resins, preparation
Polyesters, preparation
Polyimides, preparation
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(silsesquioxane-; manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)
IT **797819-04-6P 797819-05-7P 797819-06-8P**
797819-07-9P 797819-08-0P 797819-09-1P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)
IT 1568-66-7P, Allyl p-nitrophenyl ether 23523-56-0P **502925-59-9P**
502925-63-5P 502925-65-7P 643018-05-7P
643018-06-8P 797818-97-4P 797818-98-5P
797818-99-6P 797819-00-2P 797819-01-3P
797819-02-4P 797819-03-5P 799241-72-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)

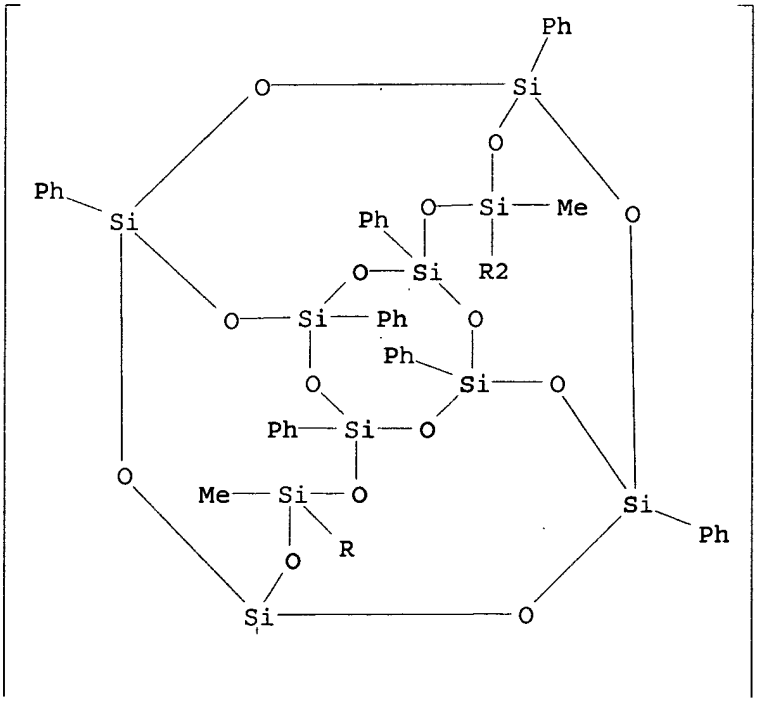
IT 100-02-7, p-Nitrophenol, reactions 106-86-5, 4-Vinyl-1-cyclohexene 1,2-epoxide 106-92-3, Allyl glycidyl ether 106-95-6, 3-Bromopropene, reactions 591-80-0, 4-Pentenoic acid 999-97-3, Hexamethyldisilazane 5290-24-4, (γ-Acetoxypropyl)methyldichlorosilane 7539-12-0, Allylsuccinic anhydride 502925-53-3 **502925-56-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)

IT **797819-04-6P 797819-05-7P 797819-06-8P 797819-07-9P 797819-08-0P 797819-09-1P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)

RN 797819-04-6 HCAPLUS

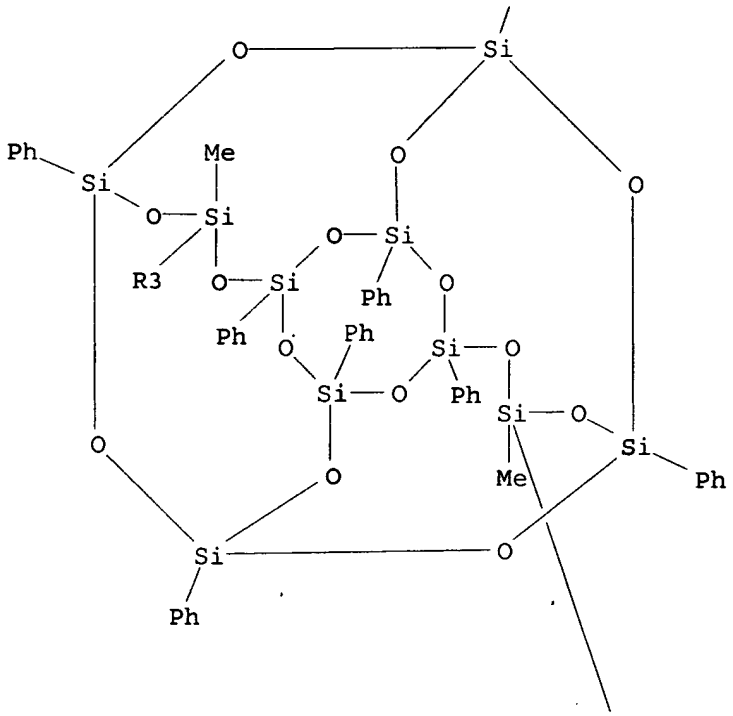
CN Poly[(2,5-dioxo-1,3-pyrrolidinediyl)-1,3-propanediyl(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)-1,3-propanediyl(2,5-dioxo-3,1-pyrrolidinediyl)-1,4-phenyleneoxy-1,3-propanediyl(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)-1,3-propanediyloxy-1,4-phenylene] (9CI) (CA INDEX NAME)

PAGE 1-A

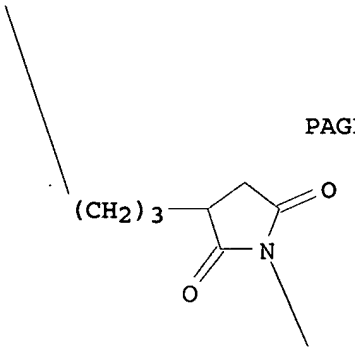


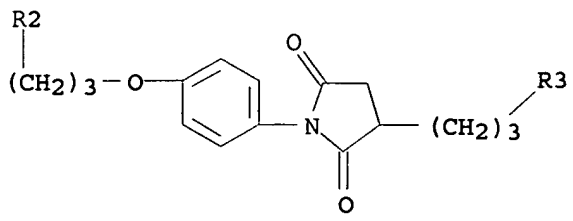
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

PAGE 3-A



PAGE 4-A





RN 797819-05-7 HCAPLUS
CN Poly[(5,7-dihydro-1,3,5,7-tetraoxobenzo[1,2-c:4,5-c']dipyrrole-2,6(1H,3H)-diyl)-1,4-phenyleneoxy-1,3-propanediyl(9,19-dimethyl-1,3,5,7,11,13,15,17-

octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)-1,3-propanediyloxy-1,4-phenylene] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *
RN 797819-06-8 HCAPLUS
CN Poly[(2,5-dioxo-1,3-pyrrolidinediyl)-1,4-phenyleneoxy-1,4-phenylene(2,5-dioxo-3,1-pyrrolidinediyl)-1,3-propanediyl(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)-1,3-propanediyl] (9CI) (CA INDEX NAME)

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

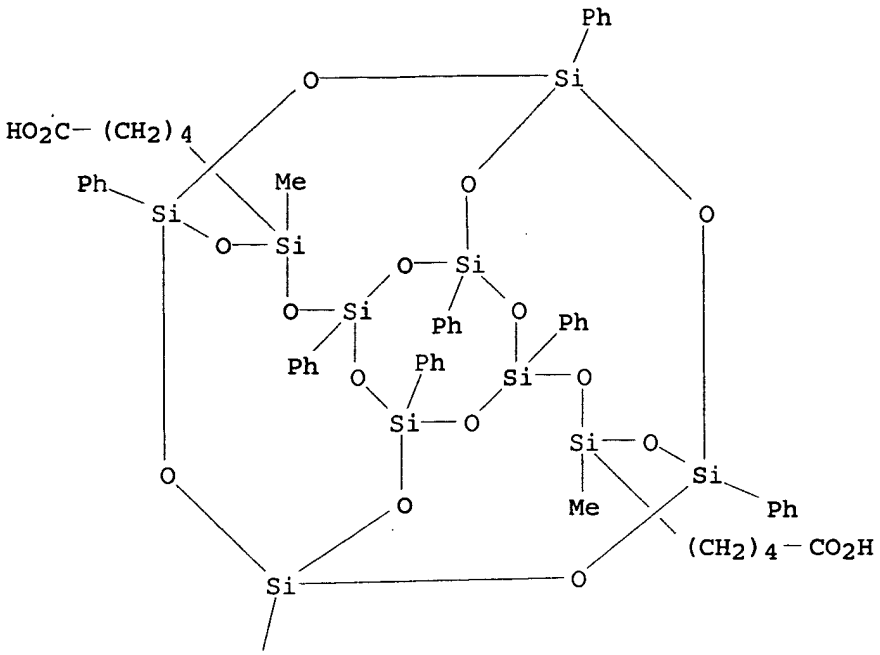
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *
RN 797819-07-9 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-dipentanoic acid, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,4-butanediol (9CI) (CA INDEX NAME)

CM 1

CRN 797818-99-6
CMF C60 H64 O18 Si10

PAGE 1-A



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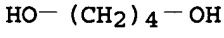
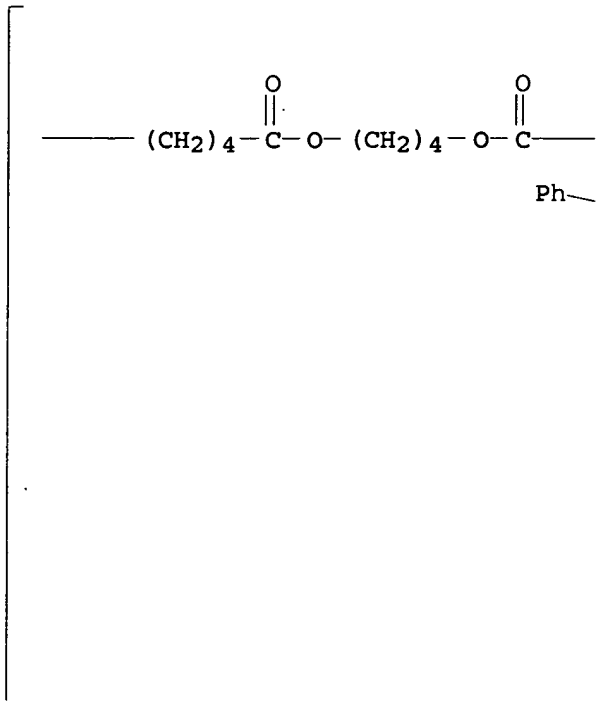
CM 2

CRN 110-63-4
CMF C4 H10 O2

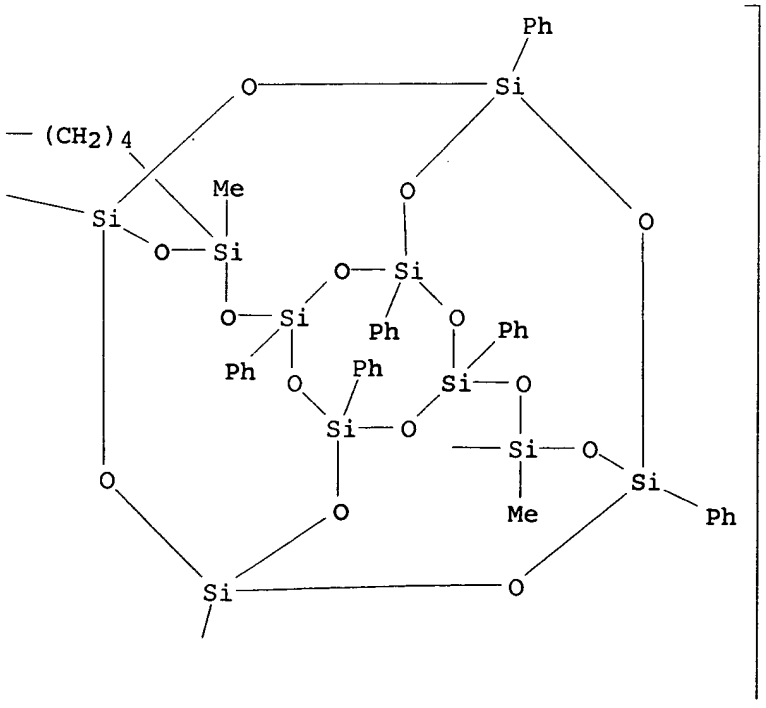


RN 797819-08-0 HCAPLUS
CN Poly[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)(5-oxo-1,5-pentanediyl)oxy-1,4-butanediyloxy(1-oxo-1,5-pentanediyl)] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



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Ph

n

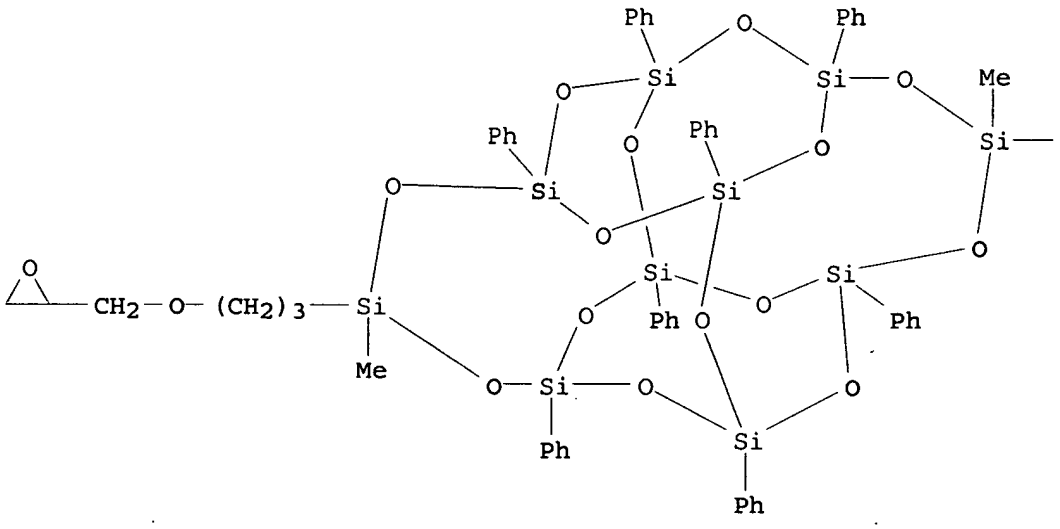
RN 797819-09-1 HCAPLUS

CN Benzenamine, 4,4'-oxybis-, polymer with 9,19-dimethyl-9,19-bis[3-(oxiranylmethoxy)propyl]-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.1 3,11.15,17.17,15]decasiloxane (9CI) (CA INDEX NAME)

CM 1

CRN 502925-63-5
CMF C62 H68 O18 Si10

PAGE 1-A



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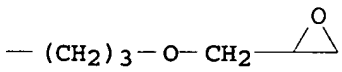
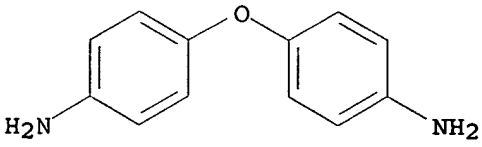


CM 2

CRN 101-80-4
CMF C12 H12 N2 O

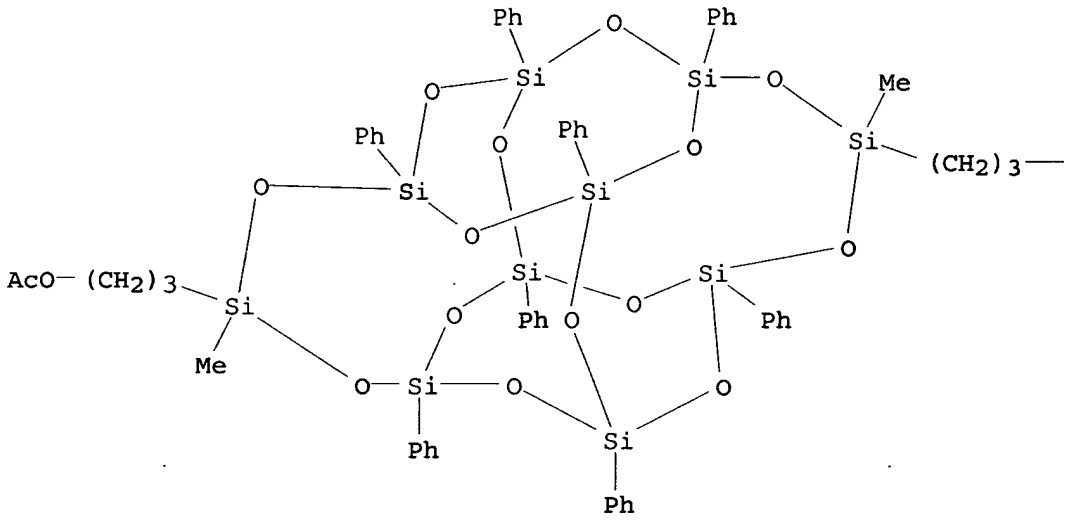


IT **502925-59-9P 502925-63-5P 502925-65-7P 643018-05-7P 643018-06-8P 797818-97-4P**

797818-98-5P 797818-99-6P 797819-00-2P
797819-01-3P 797819-02-4P 797819-03-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)

RN 502925-59-9 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-dipropanol, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, diacetate (9CI) (CA INDEX NAME)

PAGE 1-A

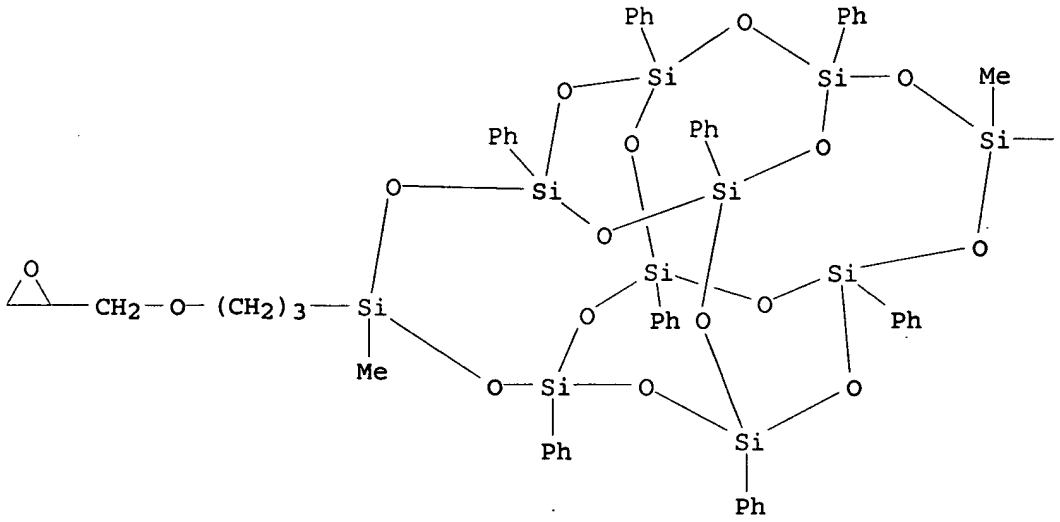


PAGE 1-B

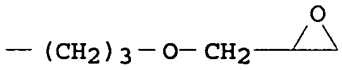
— OAc

RN 502925-63-5 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-9,19-bis[3-(oxiranylmethoxy)propyl]-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

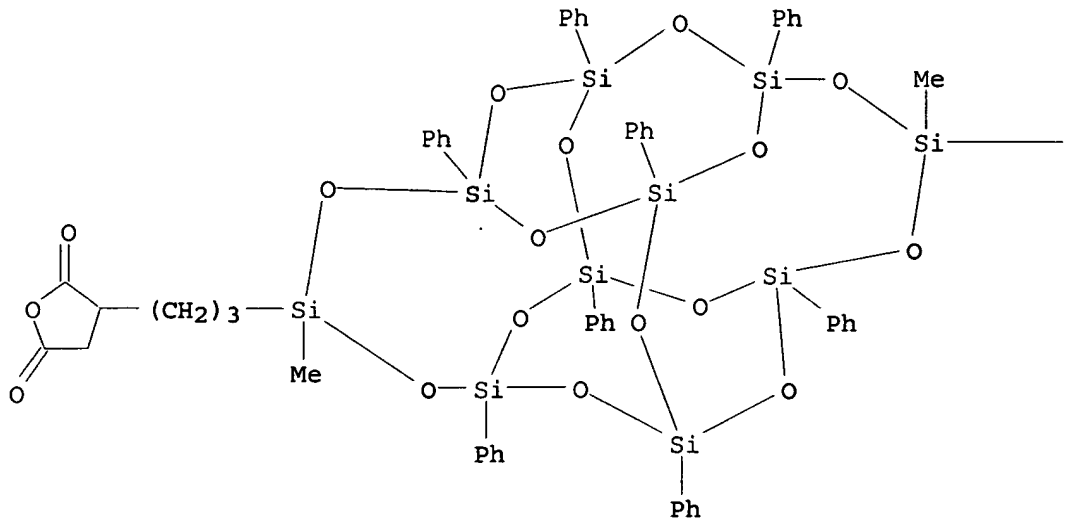


PAGE 1-B

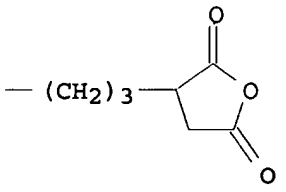


RN 502925-65-7 HCAPLUS
CN 2,5-Furandione, 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro- (9CI) (CA INDEX NAME)

PAGE 1-A

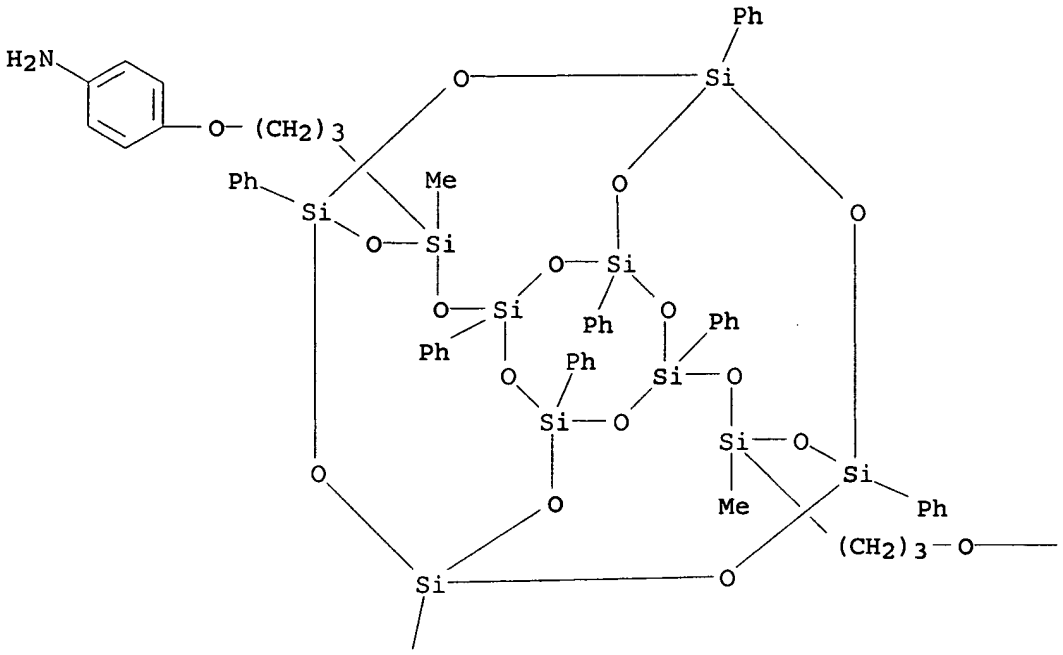


PAGE 1-B

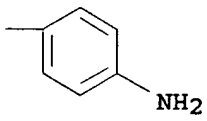


RN 643018-05-7 HCAPLUS
CN Benzenamine, 4,4'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)bis(3,1-propanediyloxy)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

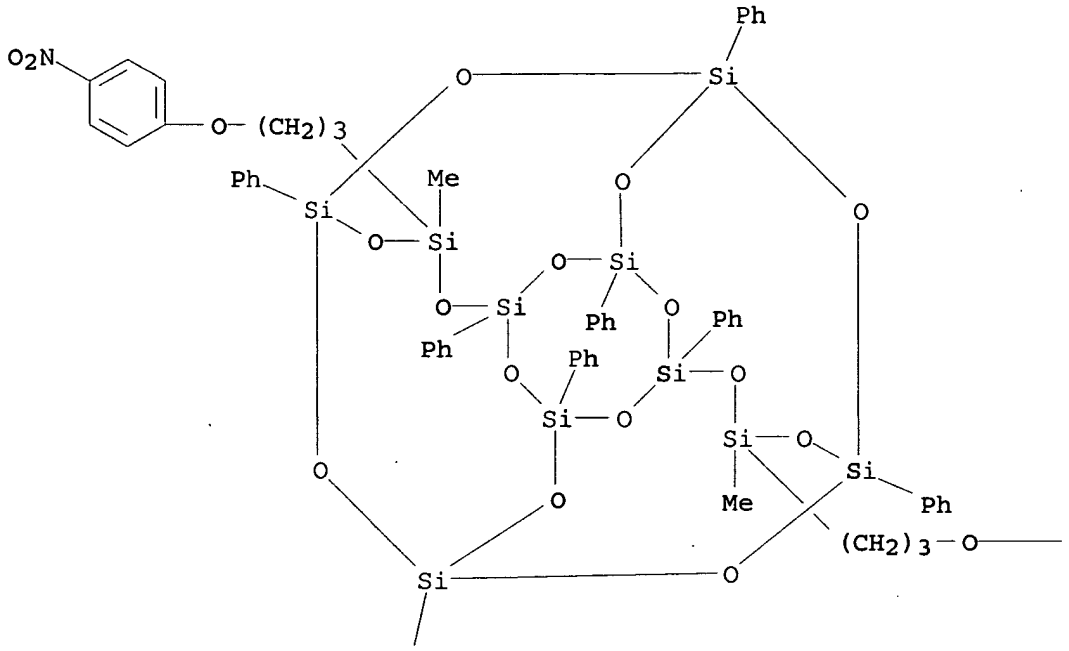


PAGE 2-A

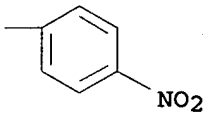
Ph

RN 643018-06-8 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-9,19-bis[3-(4-nitrophenoxy)propyl]-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

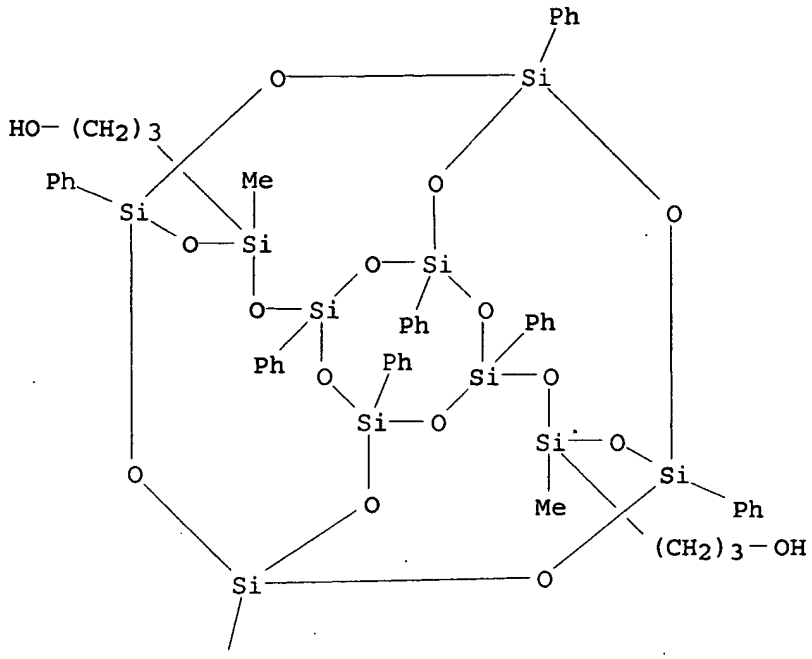


PAGE 2-A

Ph

RN 797818-97-4 HCAPLUS
CN 1-Propanol, 3,3'-(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)bis- (9CI) (CA INDEX NAME)

PAGE 1-A

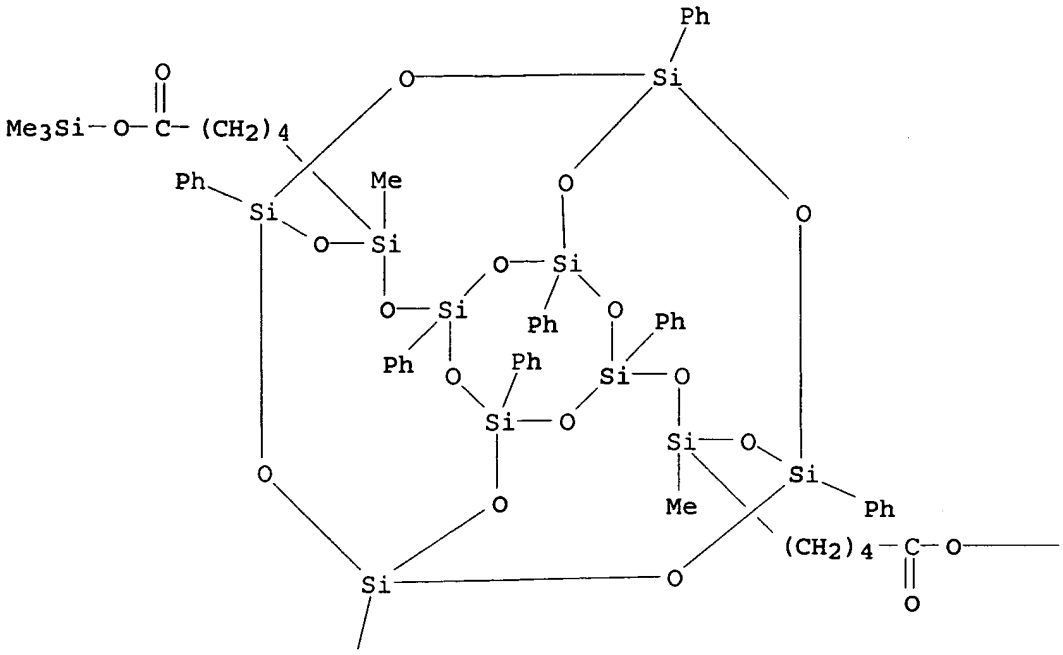


Claim 17

PAGE 2-A

RN 797818-98-5 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-dipentanoic acid, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, bis(trimethylsilyl) ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

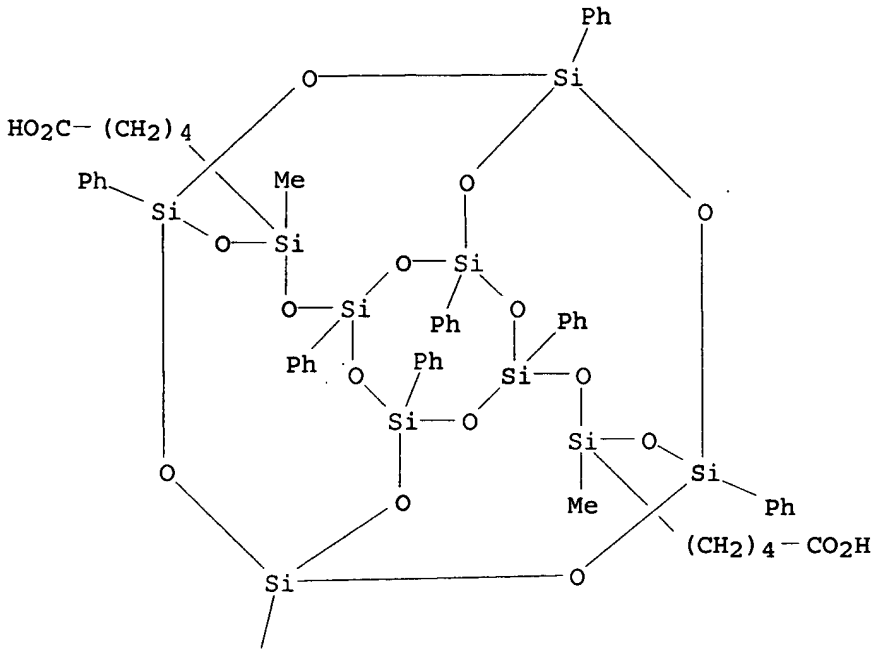
— $SiMe_3$

PAGE 2-A

Ph

RN 797818-99-6 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-dipentanoic acid, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

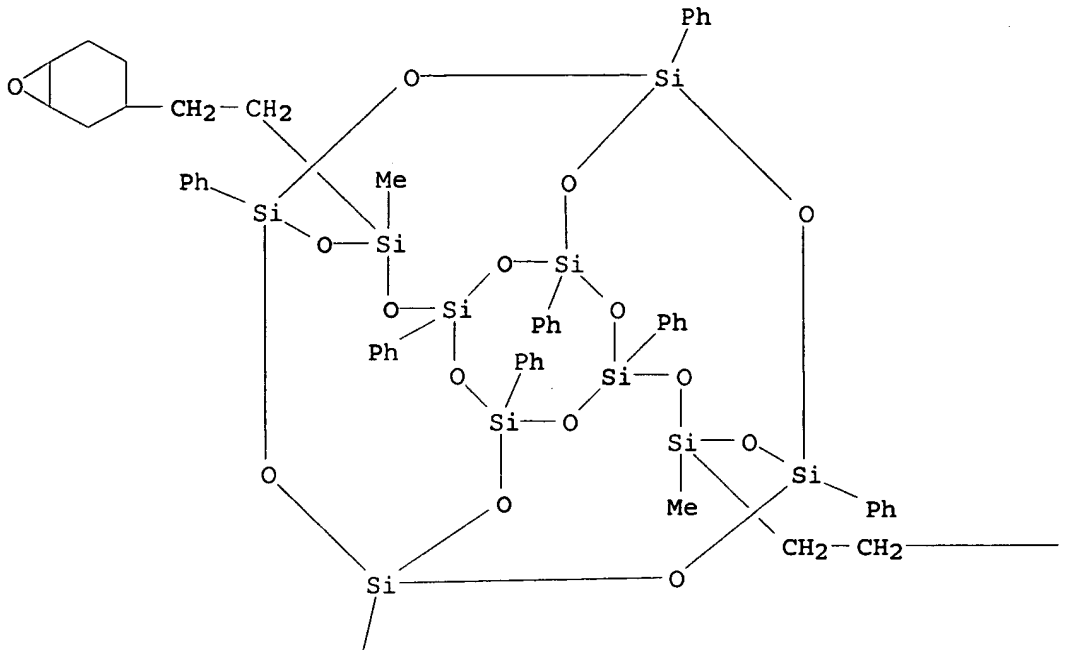
PAGE 1-A



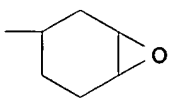
PAGE 2-A

RN 797819-00-2 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-9,19-bis[2-(7-oxabicyclo[4.1.0]hept-3-yl)ethyl]-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



PAGE 2-A

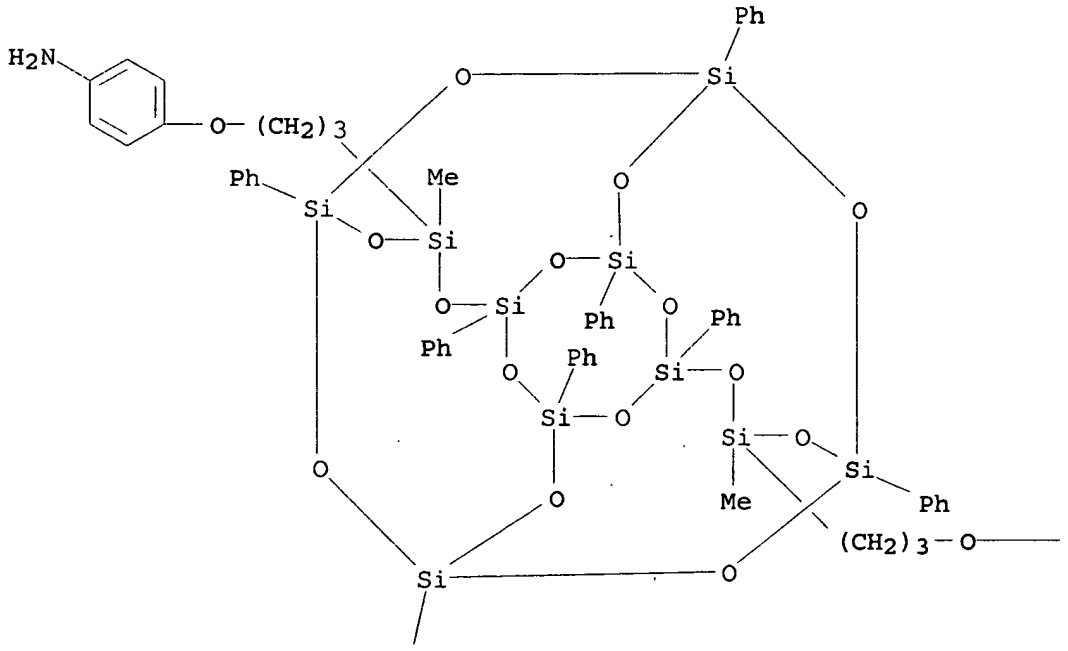
Ph

RN 797819-01-3 HCAPLUS
CN 2,5-Furandione, 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro-, polymer with 4,4'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)bis(3,1-propanediyloxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

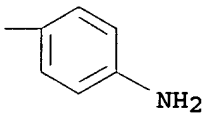
CM 1

CRN 643018-05-7
CMF C68 H70 N2 O16 Si10

PAGE 1-A



PAGE 1-B



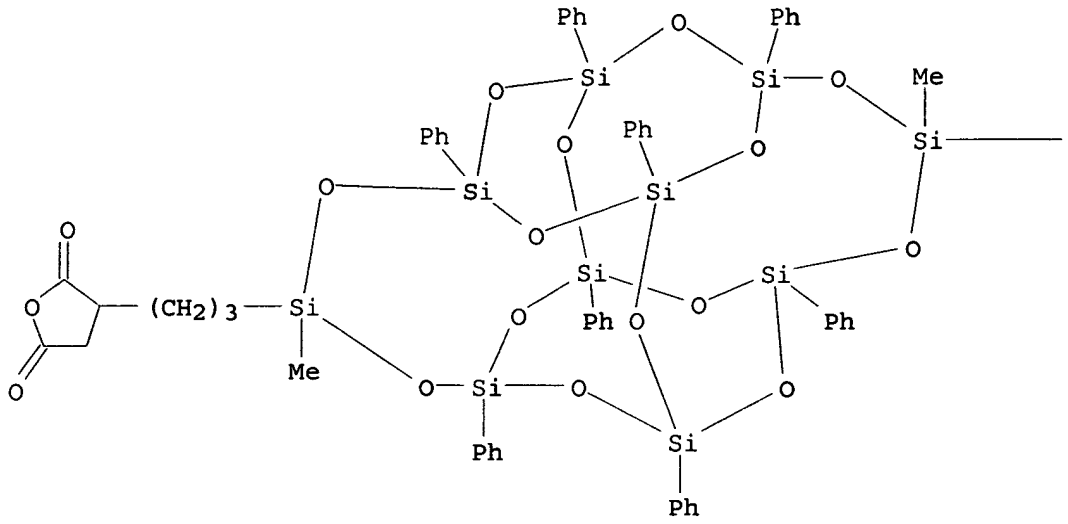
PAGE 2-A

Ph

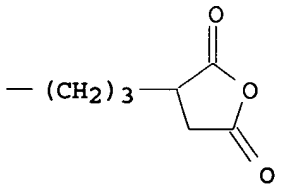
CM 2

CRN 502925-65-7
CMF C64 H64 O20 Si10

PAGE 1-A



PAGE 1-B

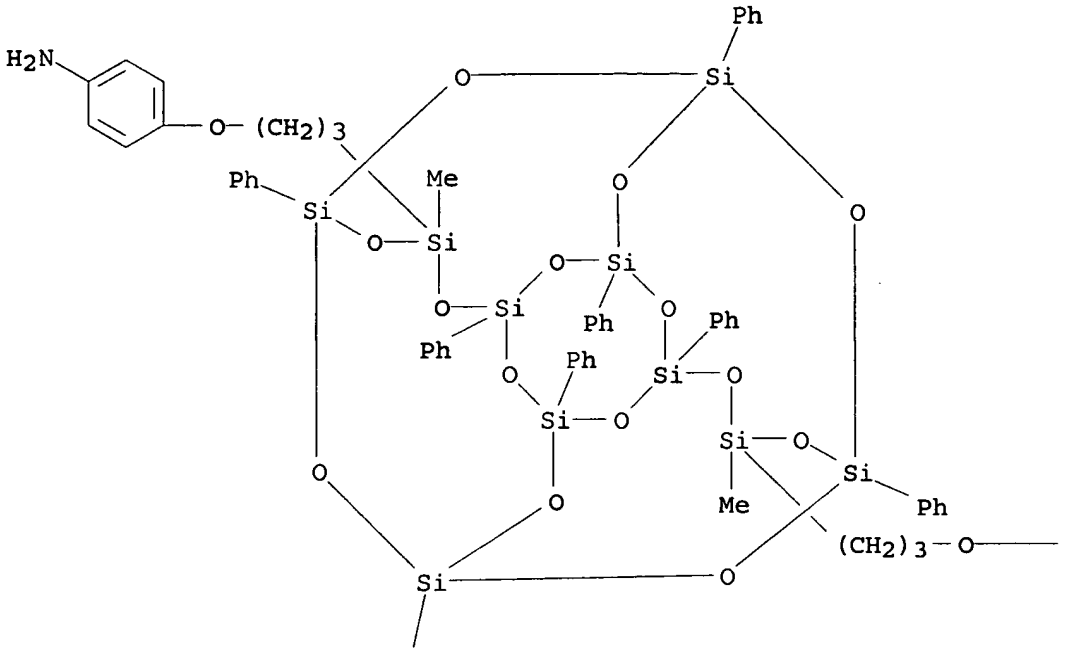


RN 797819-02-4 HCAPLUS
CN 1H,3H-Benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone, polymer with 4,4'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)bis(3,1-propanediyloxy)]bis[benzenamine] (9CI) (CA INDEX NAME)

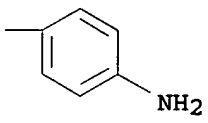
CM 1

CRN 643018-05-7
CMF C68 H70 N2 O16 Si10

PAGE 1-A



PAGE 1-B

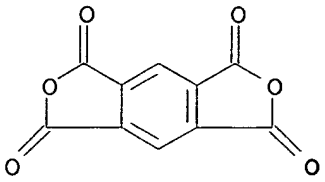


PAGE 2-A

Ph

CM 2

CRN 89-32-7
CMF C10 H2 O6

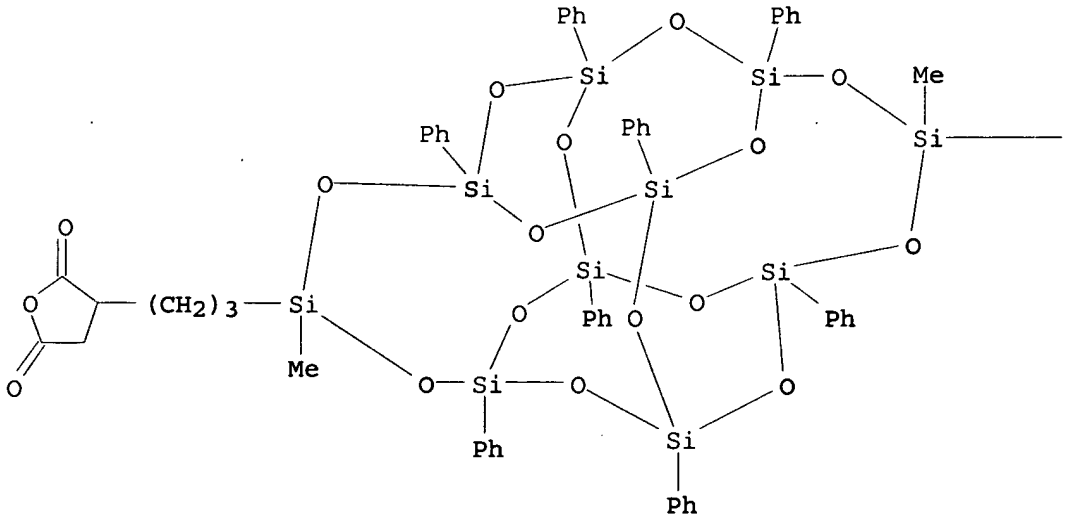


RN 797819-03-5 HCAPLUS
CN 2,5-Furandione, 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro-, polymer with 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

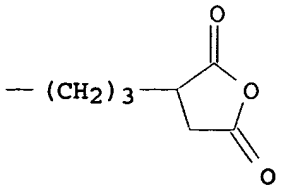
CM 1

CRN 502925-65-7
CMF C64 H64 O20 Si10

PAGE 1-A

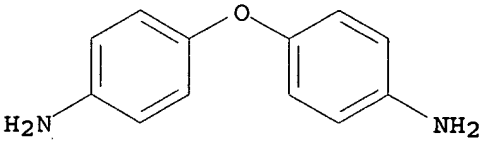


PAGE 1-B

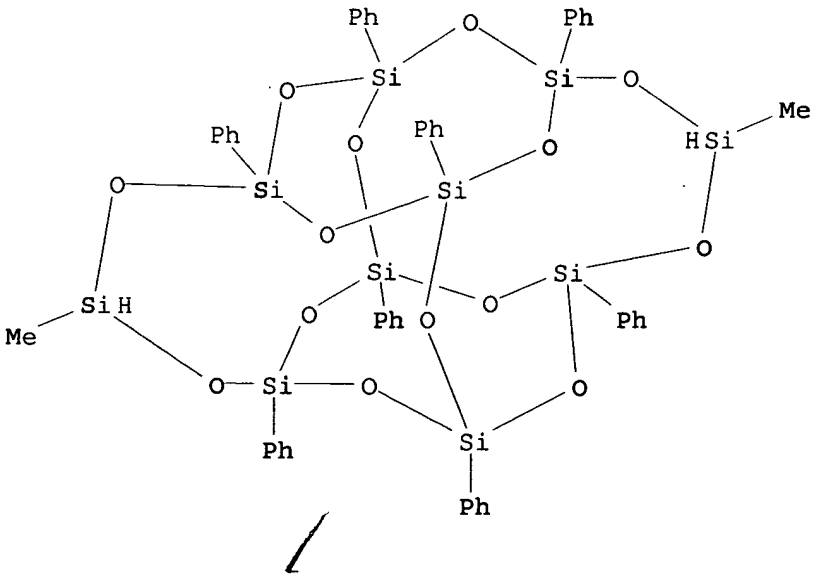


CM 2

CRN 101-80-4
CMF C12 H12 N2 O



IT **502925-56-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of polyhedral oligomeric silsesquioxane compds. having reactive groups for use in polymer modification)
RN 502925-56-6 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)



L9 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:986214 HCAPLUS
DN 141:429737

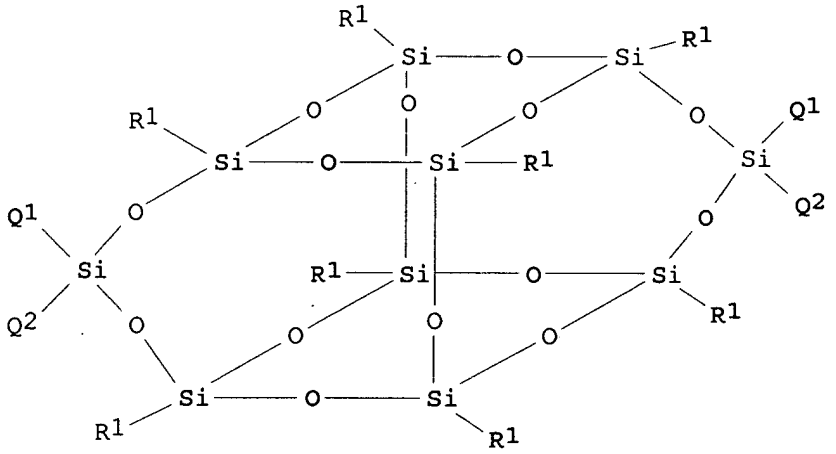
TI Varnish of polymer involving silsesquioxanediamine for formation of liquid crystal-alignment film, the alignment film, and liquid crystal display device

IN Hirai, Yoshiharu; Murata, Shizuo
PA Chisso Corp., Japan; Chisso Petrochemical Corporation

SO Jpn. Kokai Tokkyo Koho, 50 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004323665	A2	20041118	JP 2003-120178	20030424
PRAI	JP 2003-120178		20030424		

GI



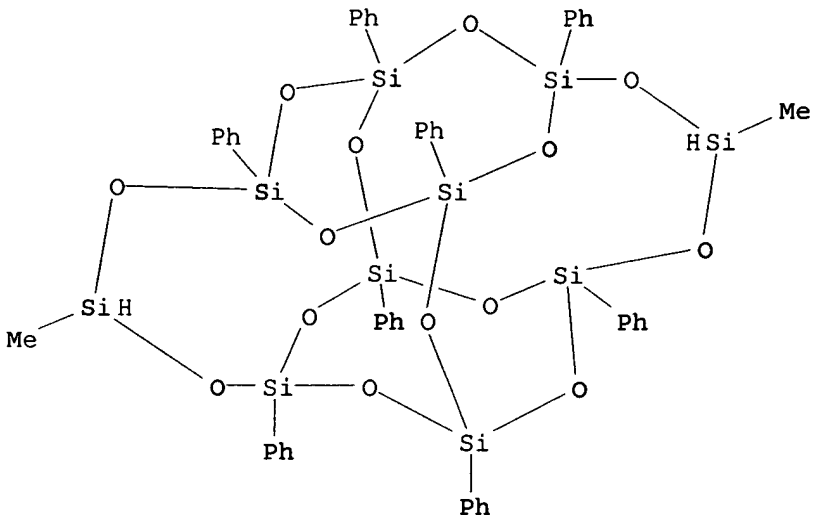
I

AB The varnish contains the polymer involving silsesquioxanediamine I [R1 = Ph which may be substituted with halogen or alkyl; Q1 = H, halogen, alkyl, cycloalkyl, (substituted) Ph; Q2 = alkyleneamine inserted with 1,4-cyclohexylene or 1,4-phenylene]. The polymer may be a polyamic acid, a polyimide, a polyamide, and/or a polyamideimide. The liquid crystal-alignment film is made of the varnish, which shows enhanced resistance to rubbing and good adhesion to a glass substrate. The liquid crystal diplay device involves the alignment film.

IC ICM C08G073-10
ICS C08G069-02; C08G077-26; G02F001-1337
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38
ST silsesquioxanediamine derived polymer liq crystal alignment; liq crystal alignment film polyamic acid; polyimide silsesquioxanediamine liq crystal alignment film; polyamide polyamideimide liq crystal alignment film; rubbing resistance liq crystal alignment film
IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamic acid-; silsesquioxanediamine polymer for formation of liquid

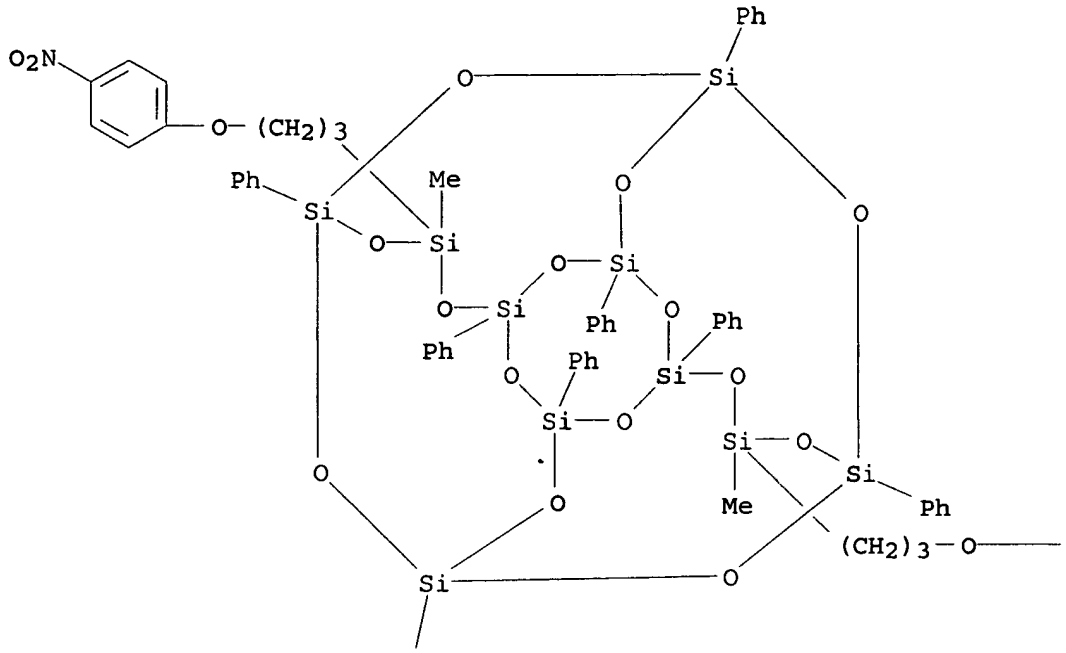
crystal-alignment film)
IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide-; silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide-polyimide-; silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyamide-silsesquioxane-; silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(polyimide-; silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT Polyamides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polyimide-silsesquioxane-; silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT Polyamic acids
Polyamides, uses
Polyimides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(silsesquioxane-; silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT Liquid crystal displays
Liquid crystals
(silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT Polyamic acids
Polyimides, preparation
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT **502925-56-6P 643018-06-8P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate for monomer; for silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT 100-02-7, reactions 106-95-6, reactions 1568-66-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer from; for silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT **643018-05-7P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
IT 124-41-4DP, Sodium methoxide, reaction product with polyamide 95627-33-1P, 4,4'-Diaminodiphenyl methane/1,2,3,4-cyclobutanetetracarboxylic dianhydride copolymer 95721-37-2P 154280-38-3P 433976-77-3P 433976-78-4P 689275-37-4DP, reaction product with sodium methoxide 795307-21-0P 795307-22-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(silsesquioxanediamine polymer for formation of liquid crystal-alignment film)

IT **502925-56-6P 643018-06-8P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate for monomer; for silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
RN 502925-56-6 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

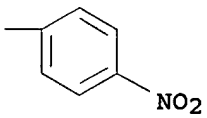


RN 643018-06-8 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-9,19-bis[3-(4-nitrophenoxy)propyl]-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

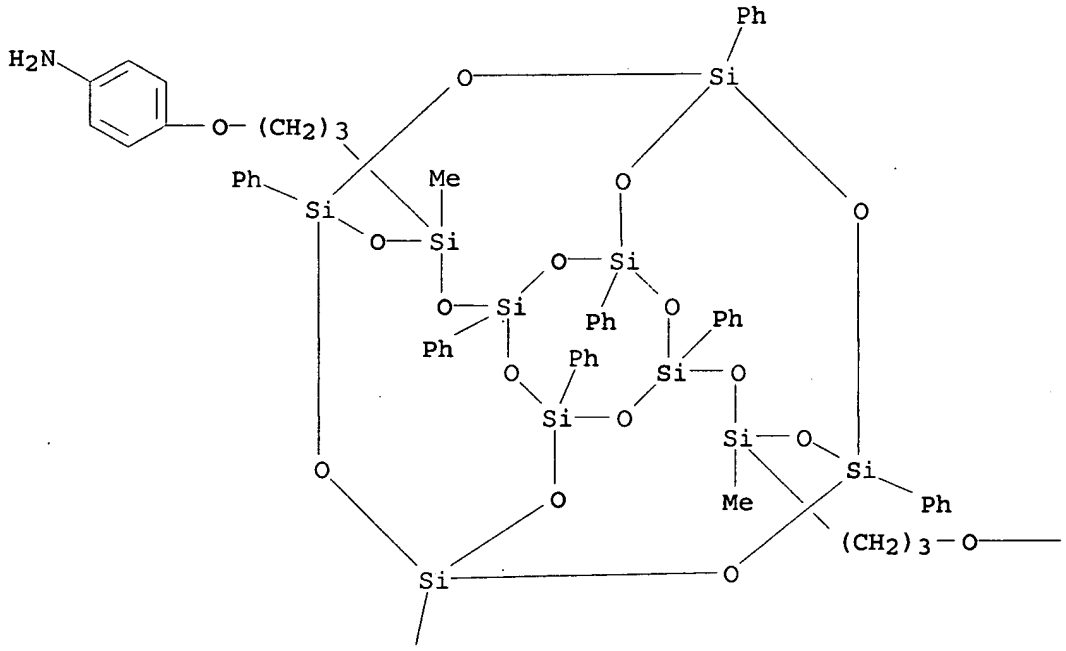


PAGE 2-A

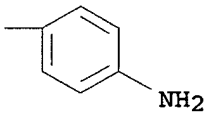
Ph

IT **643018-05-7P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(monomer; silsesquioxanediamine polymer for formation of liquid crystal-alignment film)
RN 643018-05-7 HCAPLUS
CN Benzenamine, 4,4'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)bis(3,1-propanediyloxy)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



PAGE 2-A

Ph

L9 ANSWER 9 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:780763 HCAPLUS
DN 141:279172
TI Polymers of silsesquioxane derivatives
IN Ootake, Nobumasa; Tanaka, Masami
PA Chisso Petrochemial Corporation, Japan; Chisso Corporation
SO PCT Int. Appl., 114 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004081085	A1	20040923	WO 2004-JP2663	20040303

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	JP 2006070049	A2	20060316	JP 2003-65435	20030311
	US 2006100410	A1	20060511	US 2005-548378	20051019
PRAI	JP 2003-65435	A	20030311		
	WO 2004-JP2663	W	20040303		

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The polymers, having T8D2 type structures (T and D represent the structures of a Si atom bonded with 3 and 2 O atoms, resp.), are prepared from I [R = H, (un)substituted C1-40 alkyl, (un)substituted aryl, (un)substituted arylalkyl; Y = SiX2, Z(SiX2)2; X = H, Cl, R, CH:CH, C.tplbond.C, OH, CO2H, etc., provided that ≥1 of X is a reactive group; Z = O, CH2, single bond]. The polymers are useful for coatings and films for metal ion elution prevention. Thus, heating 1.8 g II and 1.1 g III in 10 mL PhMe in the presence of Karstedt catalyst at 70° for 3 h gave a polymer with Mw 3900 and Mn 2400. The polymer solution was spin-coated on glass and heated to give a transparent coating having refractive index 1.567 and good chemical resistance.

IC ICM C08G077-04
ICS C08G077-44; C08G077-50

CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 38

ST silsesquioxane polymer transparent coating chem resistance

IT Transparent materials
(coatings; preparation of silsesquioxane polymers with good transparency and chemical and heat resistance)

IT Transparent films
(flexible; preparation of silsesquioxane polymers with good transparency and chemical and heat resistance)

IT Heat-resistant materials
(preparation of silsesquioxane polymers with good transparency and chemical and heat resistance)

IT Silsesquioxanes
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of silsesquioxane polymers with good transparency and chemical and heat resistance)

IT Coating materials
(transparent; preparation of silsesquioxane polymers with good transparency and chemical and heat resistance)

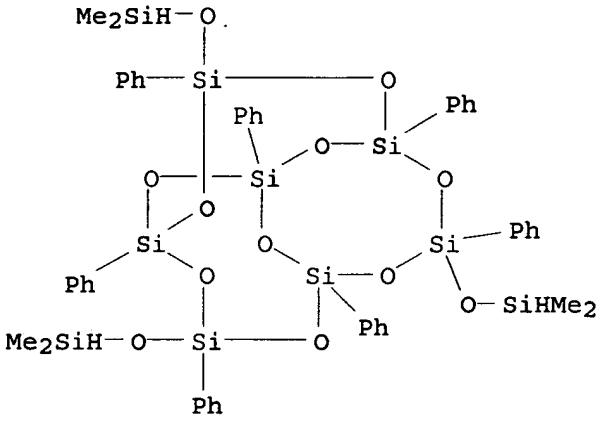
IT **760108-95-0P 760185-57-7P 760185-58-8P**
760185-59-9P 760185-60-2P 760185-61-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of silsesquioxane polymers with good transparency and chemical and heat resistance)

IT **760108-95-0P 760185-57-7P 760185-58-8P**
760185-59-9P 760185-60-2P 760185-61-3P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of silsesquioxane polymers with good transparency and chemical and heat resistance)

RN 760108-95-0 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 5,11,14,17-tetrakis[(dimethylsilyl)oxy]-1,3,5,7,9,11,14,17-octaphenyltricyclo[7.3.3.33,7]octasiloxane and 3,7,14-tris[(dimethylsilyl)oxy]-1,3,5,7,9,11,14-heptaphenyltricyclo[7.3.3.15,11]heptasiloxane (9CI) (CA INDEX NAME)

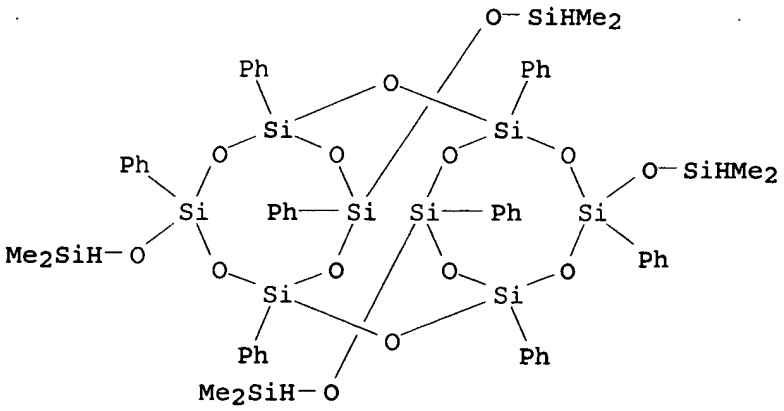
CM 1

CRN 676229-30-4
CMF C48 H56 O12 Si10



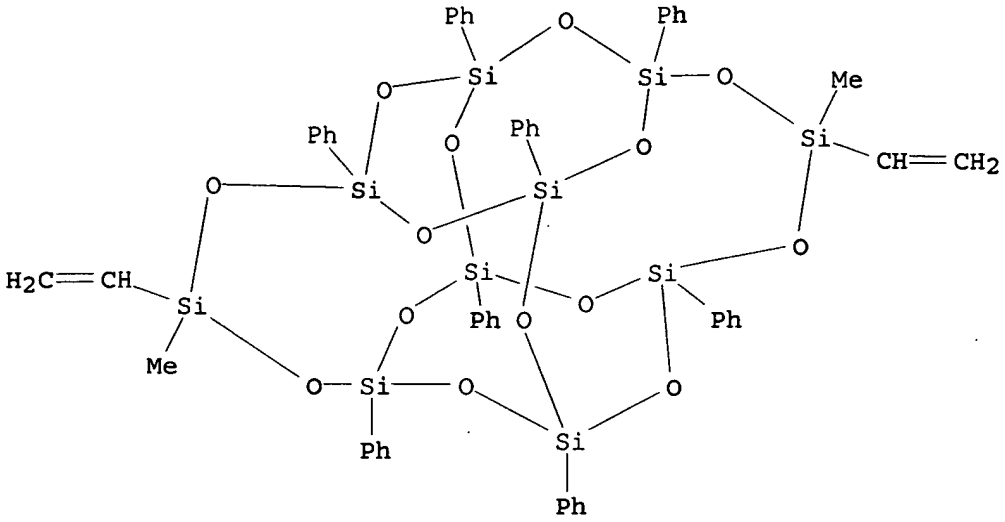
CM 2

CRN 674298-98-7
CMF C56 H68 O14 Si12



CM 3

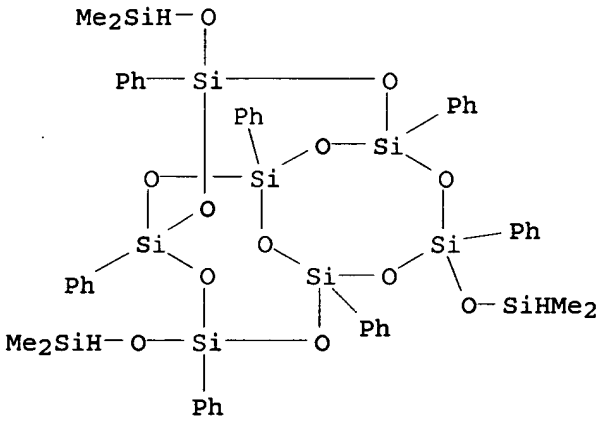
CRN 502925-64-6
CMF C54 H52 O14 Si10



RN 760185-57-7 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 3,7,14-tris[(dimethylsilyl)oxy]-1,3,5,7,9,11,14-heptaphenyltricyclo[7.3.3.15,11]heptasiloxane (9CI) (CA INDEX NAME)

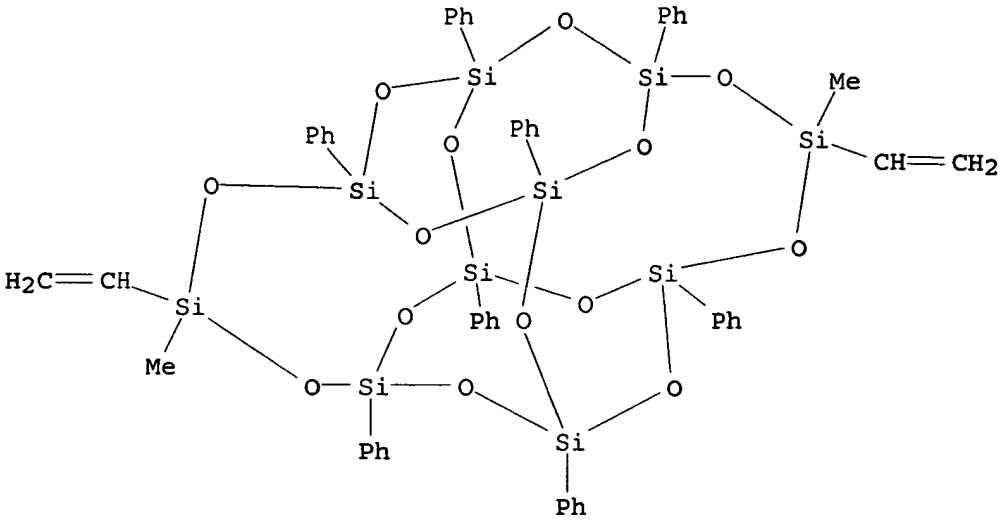
CM 1

CRN 676229-30-4
CMF C48 H56 O12 Si10



CM 2

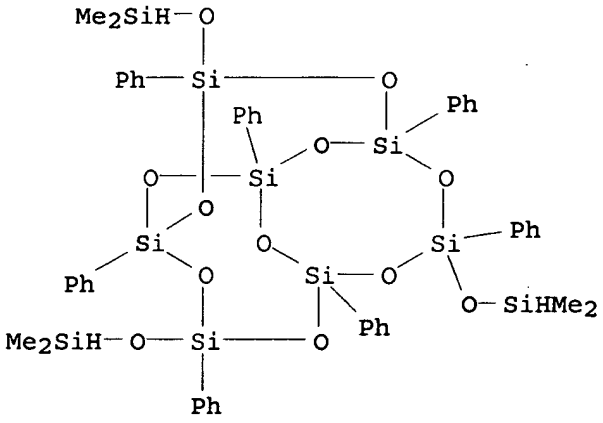
CRN 502925-64-6
CMF C54 H52 O14 Si10



RN 760185-58-8 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,1,3,3-tetramethyldisiloxane and 3,7,14-tris[(dimethylsilyl)oxy]-1,3,5,7,9,11,14-heptaphenyltricyclo[7.3.3.15,11]heptasiloxane (9CI) (CA INDEX NAME)

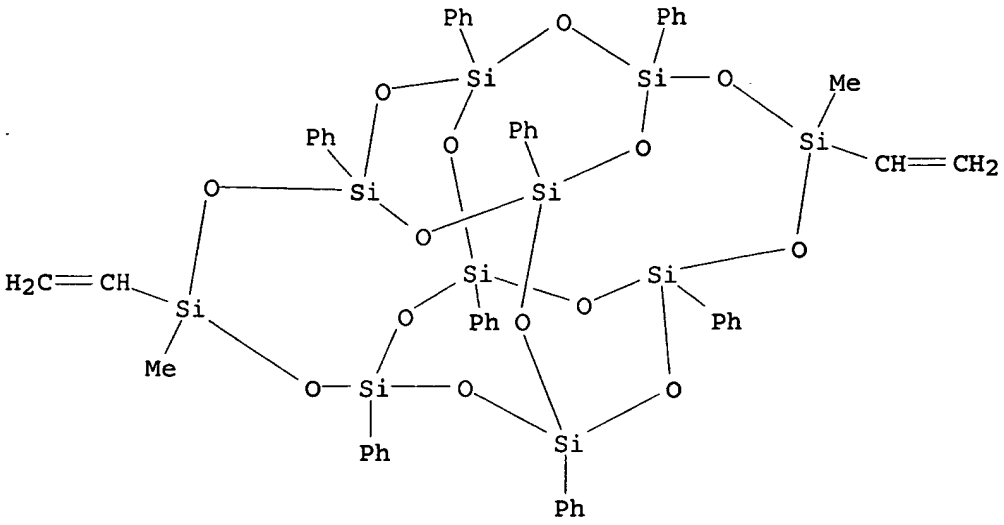
CM 1

CRN 676229-30-4
CMF C48 H56 O12 Si10



CM 2

CRN 502925-64-6
CMF C54 H52 O14 Si10



CM 3

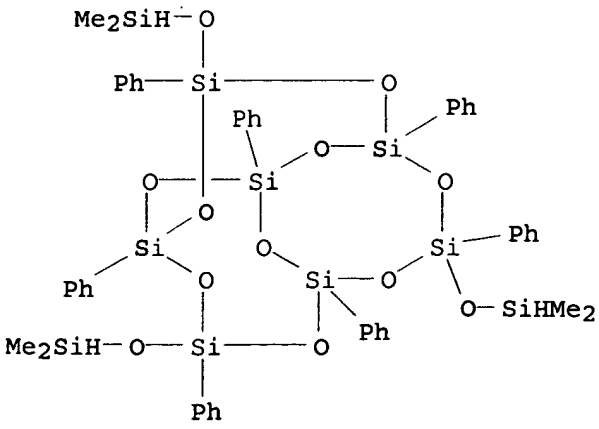
CRN 3277-26-7
CMF C4 H14 O Si2

$Me_2SiH-O-SiHMe_2$

RN 760185-59-9 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,4-phenylenebis[dimethylsilane] and 3,7,14-tris[(dimethylsilyl)oxy]-1,3,5,7,9,11,14-heptaphenyltricyclo[7.3.3.15,11]heptasiloxane (9CI) (CA INDEX NAME)

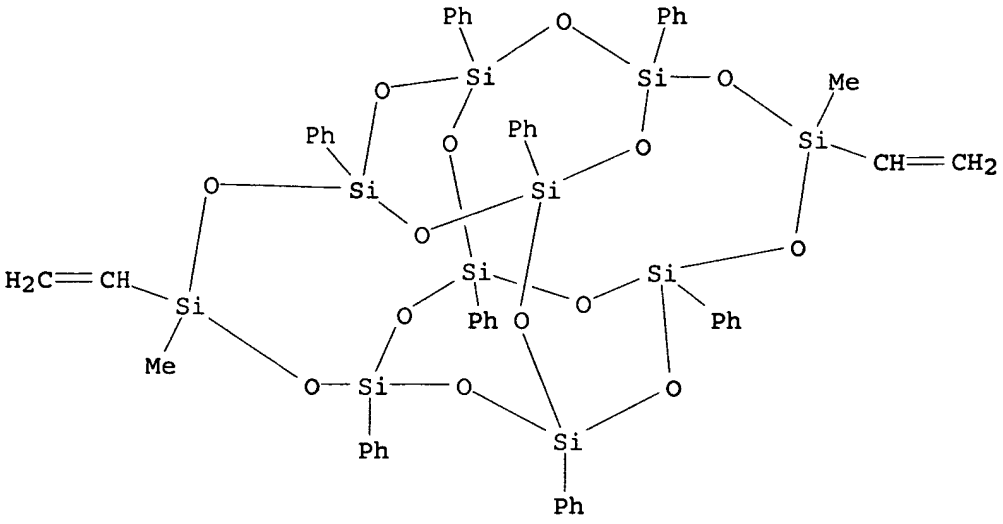
CM 1

CRN 676229-30-4
CMF C48 H56 O12 Si10



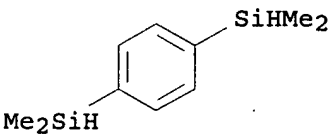
CM 2

CRN 502925-64-6
CMF C54 H52 O14 Si10



CM 3

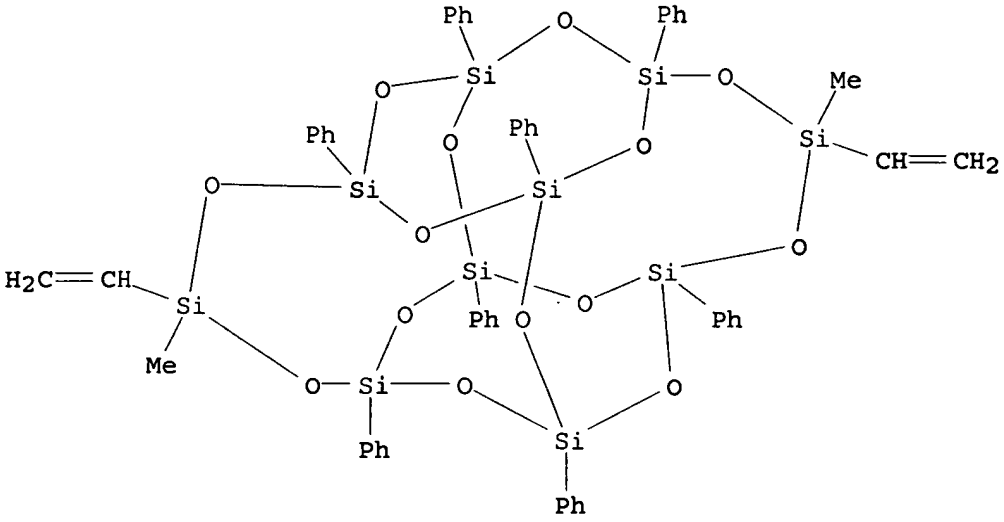
CRN 2488-01-9
CMF C10 H18 Si2



RN 760185-60-2 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with (oxydi-4,1-phenylene)bis[dimethylsilane] (9CI) (CA INDEX NAME)

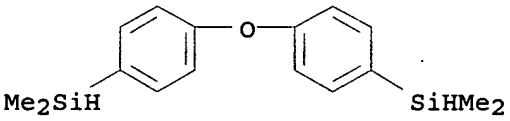
CM 1

CRN 502925-64-6
CMF C54 H52 O14 Si10



CM 2

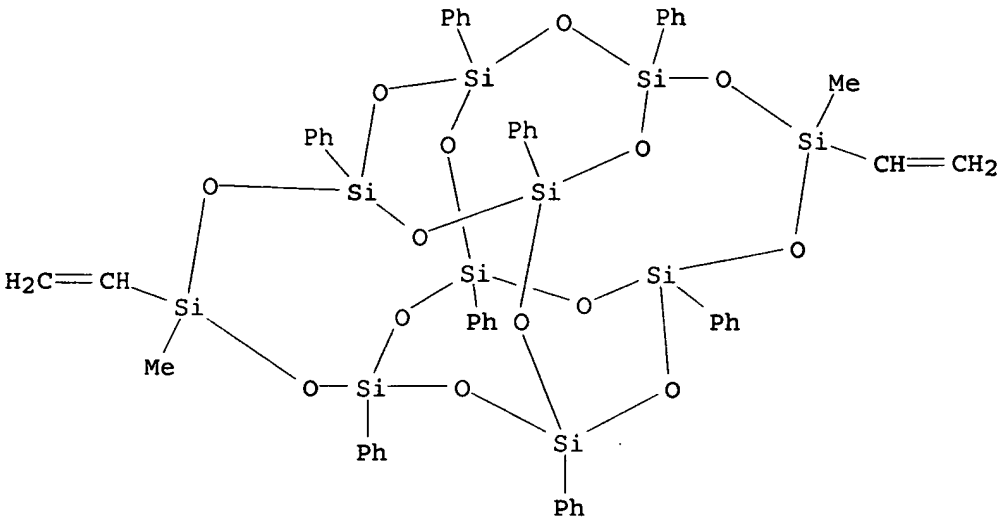
CRN 13315-17-8
CMF C16 H22 O Si2



RN 760185-61-3 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 1,4-phenylenebis[dimethylsilane] (9CI) (CA INDEX NAME)

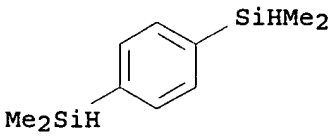
CM 1

CRN 502925-64-6
CMF C54 H52 O14 Si10



CM 2

CRN 2488-01-9
CMF C10 H18 Si2



RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 10 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:780762 HCAPLUS
DN 141:279171
TI Preparation of polymers of silsesquioxane derivatives having double-decker structures
IN Ootake, Nobumasa; Hayashida, Teruaki
PA Chisso Corporation, Japan
SO PCT Int. Appl., 103 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004081084	A1	20040923	WO 2004-JP2655	20040303

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,

BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

	US 2006116499	A1	20060601	US 2005-548456	20050912
PRAI	JP 2003-67208	A	20030312		
	WO 2004-JP2655	W	20040303		

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The polymers are prepared from I [R0 = H, (un)substituted C1-40 alkyl, (un)substituted aryl, (un)substituted arylalkyl; R1 = R0, Cl, CN-containing group; X = H, Cl, R1, CH:CH, C.tplbond.C, OH, CO2H, etc., provided that ≥2 of X groups are reactive groups]. The polymers are useful for coatings and films for metal ion elution prevention. Thus, heating II 0.5, III 1.8, and IV 0.55 g in 15 mL PhMe in the presence of Karstedt catalyst at 90° for 2 h gave a polymer with Mw 5100 and Mn 2700. The polymer solution was spin-coated on glass and heated to give a transparent coating having refractive index 1.567 and good chemical resistance.

IC ICM C08G077-04
ICS C08G077-44; C08G077-50

CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 38

ST silsesquioxane polymer transparent coating chem resistance

IT Transparent materials
(coatings; preparation of polymers of silsesquioxane derivs. having double-decker structures)

IT Transparent films
(flexible; preparation of polymers of silsesquioxane derivs. having double-decker structures)

IT Silsesquioxanes
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of polymers of silsesquioxane derivs. having double-decker structures)

IT Coating materials
(transparent; preparation of polymers of silsesquioxane derivs. having double-decker structures)

IT **760108-95-0P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of polymers of silsesquioxane derivs. having double-decker structures)

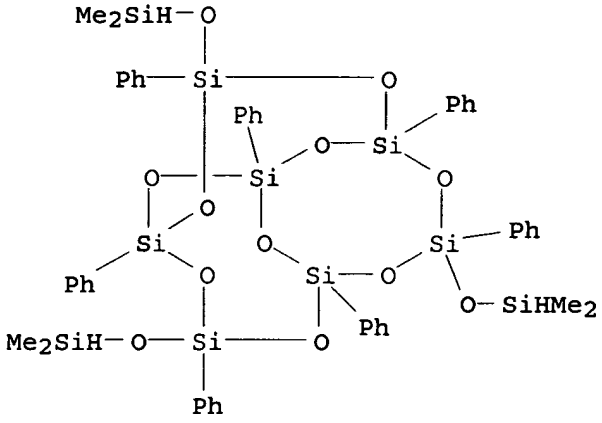
IT **760108-95-0P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of polymers of silsesquioxane derivs. having double-decker structures)

RN 760108-95-0 HCAPLUS

CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, polymer with 5,11,14,17-tetrakis[(dimethylsilyl)oxy]-1,3,5,7,9,11,14,17-octaphenyltricyclo[7.3.3.33,7]octasiloxane and 3,7,14-tris[(dimethylsilyl)oxy]-1,3,5,7,9,11,14-heptaphenyltricyclo[7.3.3.15,11]heptasiloxane (9CI) (CA INDEX NAME)

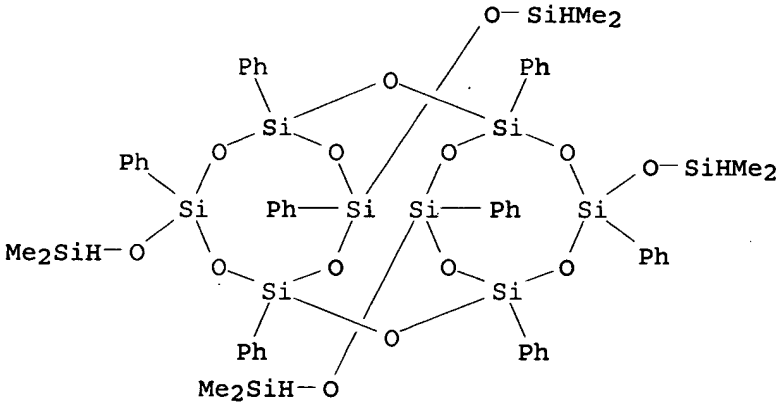
CM 1

CRN 676229-30-4
CMF C48 H56 O12 Si10



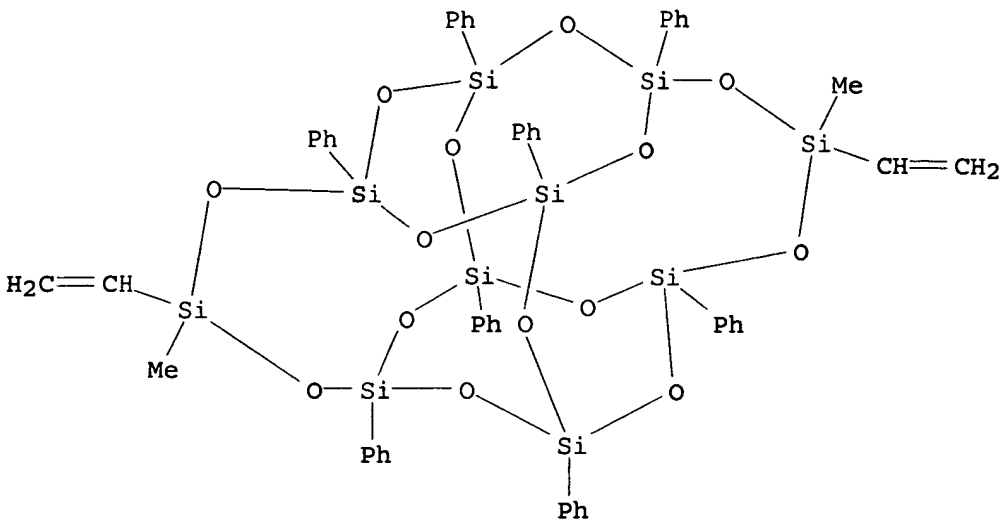
CM 2

CRN 674298-98-7
CMF C56 H68 O14 Si12



CM 3

CRN 502925-64-6
CMF C54 H52 O14 Si10



RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 11 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:725468 HCAPLUS
DN 142:114147
TI Synthesis of silsesquioxane cages from phenyl-cis-tetrol, 1,3-divinyltetraethoxydisiloxane and cyclopentyl resins
AU Liu, Zhi-hua; Bassindale, Alan R.; Taylor, Peter G.
CS Department of Chemistry, Open University, Milton Keynes, MK7 6AA, UK
SO Chemical Research in Chinese Universities (2004), 20(4), 433-436
CODEN: CRCUED; ISSN: 1005-9040
PB Higher Education Press
DT Journal
LA English
OS CASREACT 142:114147
AB The synthesis of T8, T10 and T12 silsesquioxane cages from a range of starting materials: phenyl-cis-tetrol, 1,3-divinyltetraethoxydisiloxane and cyclopentyl T resins by using tetrabutylammonium fluoride (TBAF) as the catalyst is described in this paper. The reaction yields obtained via the current route are better compared to those via the literature routes. Some of the cage compds. have been characterized by x-ray crystallog.
CC 29-6 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 35
ST silsesquioxane cage prepn structure; phenyl cis tetrol divinyltetraethoxydisiloxane cyclopentyl resin prepn reaction; tetrabutylammonium fluoride catalyzed reaction phenyl tetrol divinyltetraethoxydisiloxane cyclopentyl resin
IT Resins
Silsesquioxanes
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of silsesquioxane cages from phenyl-cis-tetrol, divinyltetraethoxydisiloxane, and cyclopentyl resins)
IT 429-41-4, Tetra n-butylammonium fluoride
RL: CAT (Catalyst use); USES (Uses)
(synthesis of silsesquioxane cages from phenyl-cis-tetrol, divinyltetraethoxydisiloxane, and cyclopentyl resins)
IT 3682-26-6 6425-92-9 14579-03-4, Cyclopentyltrichlorosilane
RL: RCT (Reactant); RACT (Reactant or reagent)

(synthesis of silsesquioxane cages from phenyl-cis-tetrol, divinyltetraethoxydisiloxane, and cyclopentyl resins)

IT 176225-75-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of silsesquioxane cages from phenyl-cis-tetrol, divinyltetraethoxydisiloxane, and cyclopentyl resins)

IT 5256-79-1P **18923-59-6P** 71682-48-9P 84189-48-0P
268202-73-9P 821807-89-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of silsesquioxane cages from phenyl-cis-tetrol, divinyltetraethoxydisiloxane, and cyclopentyl resins)

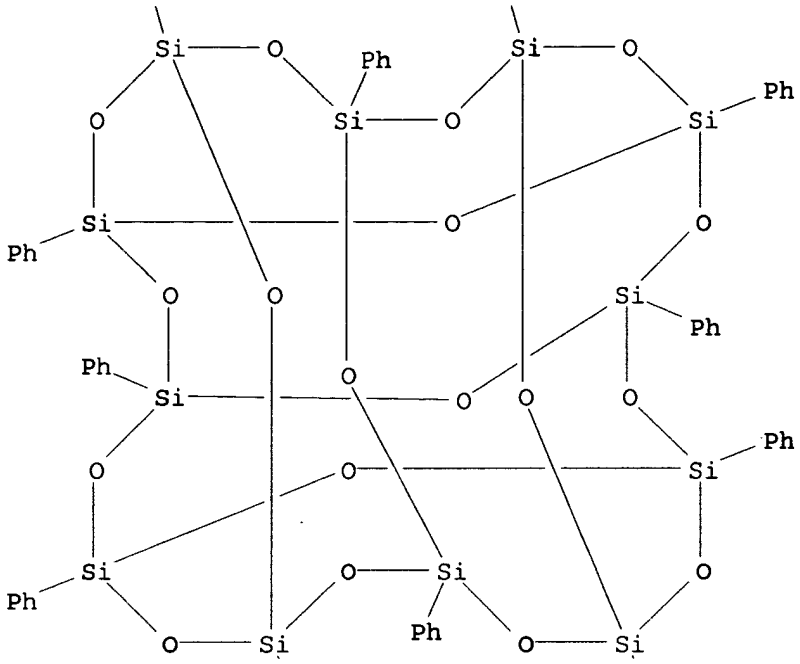
IT **18923-59-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of silsesquioxane cages from phenyl-cis-tetrol, divinyltetraethoxydisiloxane, and cyclopentyl resins)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A



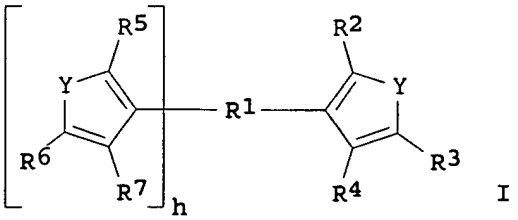
PAGE 3-A

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 12 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:271699 HCAPLUS
DN 140:304977
TI Heat-resistant polymer compositions and their electrically insulating materials
IN Fujiwara, Takenori; Goto, Kazuki; Tomikawa, Masao
PA Toray Industries, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 36 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004099888	A2	20040402	JP 2003-298347	20030822
PRAI	JP 2002-241898	A	20020822		

GI



I

AB The compns., useful for interlayer insulating films, comprise (a) I [Y = SO2, SO, S, NR8, SiR9R10, CO; R1 = aromatic group with valence (h + 1), single bond; R2-R10 = H, C1-30 alkyl, aromatic group; h = 0-6], (b) cyclic acetylene compds., and (c) organic solvents. Thus, reaction of 6.90 g 3,3'-(1,4-phenylene)bis(2,4,5-triphenylcyclopentadienone) and 3 g cyclic (1,3-C6H4C.tplbond.C)6 in 60 g N-methylpyrrolidone gave a copolymer (Mw 3400), which was filtered and applied on a Si wafer to give a coating with 5% weight loss temperature 560°.

IC ICM C08L065-00
ICS C08G061-00; H01B003-30

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 25, 29, 76

ST heat resistance interlayer insulator film cyclic acetylene cyclopentadienone; phenylene phenylcyclopentadienone cyclic acetylene polymer insulator

IT Dielectric films
Electric insulators
Heat-resistant materials
(heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

IT Polyacetylenes, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

IT Silsesquioxanes
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyhedral, acetylene-containing; heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

IT **18923-59-6DP**, Dodeca(phenylsilasesquioxane), brominated, reaction products with phenylacetylene, polymers with cyclopentadienone derivs.
RL: IMF (Industrial manufacture); PREP (Preparation)
(Mol. Silicas MS 0802; heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

IT 5256-79-1DP, Octaphenylsilsesquioxane, brominated, reaction products with phenylacetylene, polymers with cyclopentadienone derivs.
RL: IMF (Industrial manufacture); PREP (Preparation)
(Mol. Silicas MS 0840; heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

IT 536-74-3DP, Phenylacetylene, reaction products with brominated silsesquioxanes, polymers with cyclopentadienone derivs. 3432-73-3DP, 3,3'-(1,4-Phenylene)bis(2,4,5-triphenylcyclopentadienone), reaction products with acetylene-containing silsesquioxanes 13092-45-0DP, 3,3'-(Oxydi-p-phenylene)bis(2,4,5-triphenylcyclopentadienone), reaction products with acetylene-containing silsesquioxanes 675837-35-1P 675837-36-2P 675837-39-5P 675837-41-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

IT 53273-19-1P 144001-00-3P 144001-01-4P 144001-05-8P 675837-31-7P

675837-32-8P 675837-33-9P 675837-34-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

IT 108-36-1, 1,3-Dibromobenzene 109-89-7, Diethylamine, reactions 591-19-5, m-Bromoaniline 1066-54-2, Trimethylsilylacetylene
RL: RCT (Reactant); RACT (Reactant or reagent)
(heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

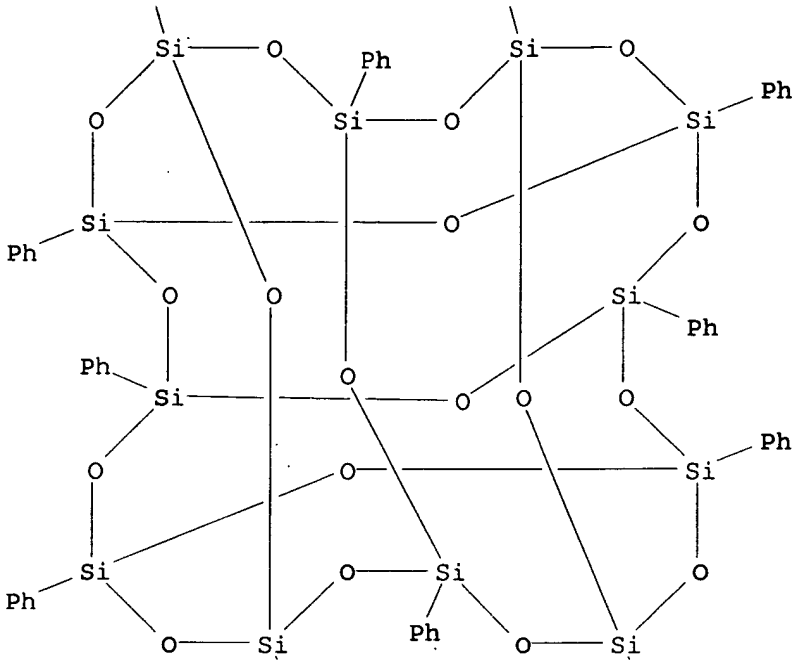
IT **18923-59-6DP**, Dodeca(phenylsilasesquioxane), brominated, reaction products with phenylacetylene, polymers with cyclopentadienone derivs.
RL: IMF (Industrial manufacture); PREP (Preparation)
(Mol. Silicas MS 0802; heat-resistant polymer compns. useful for interlayer insulating films with good crack resistance)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A



PAGE 3-A

L9 ANSWER 13 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2004:20131 HCAPLUS
DN 140:102097
TI Reliable sealing of liquid crystal panels and photocurable sealants with good substrate adhesion therefor
IN Yamamoto, Hitoshi; Sasata, Yasuyuki; Harufuji, Tatsuji; Hirano, Yukio
PA Chisso Corp., Japan; Chisso Petrochemical Corporation
SO Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004004612	A2	20040108	JP 2003-70642	20030314
PRAI	JP 2002-92333	A	20020328		

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The sealants, showing long life, low moisture permeability, and less leakage of ionic contaminants to liquid crystal layers, contain polysilsesquioxane derivs. having (meth)acryloyloxy and/or epoxy groups. Compds. represented by I and II (R, R' = 2-methylpropyl) are also claimed.

IC ICM G02F001-1339
ICS C08F290-06; C08F299-08; C08G059-20; C09K003-10

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST polyhedral oligomeric silsesquioxane photocurable LCD sealant; POSS polymer photocurable sealing compn LCD; liq crystal panel acryloyloxy POSS photocurable sealant

IT Silsesquioxanes
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(acrylic; low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT Epoxy resins, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(diamine-crosslinked; low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT Liquid crystal displays
Sealing
Sealing compositions
(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT Cage compounds
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(polyhedral oligomeric silsesquioxanes; low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT **643018-05-7P**
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(crosslinking agents; low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT 109144-76-5P 643018-07-9P **643018-08-0P 643018-09-1P 643018-10-4P 643018-11-5P** 643018-12-6P 643023-21-6P 643023-22-7P 643026-10-2P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT 136864-48-7
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT 1568-66-7P, p-Nitrophenyl allyl ether **502925-56-6P 643018-06-8P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT **502925-58-8P** 643018-03-5P 643018-04-6P
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

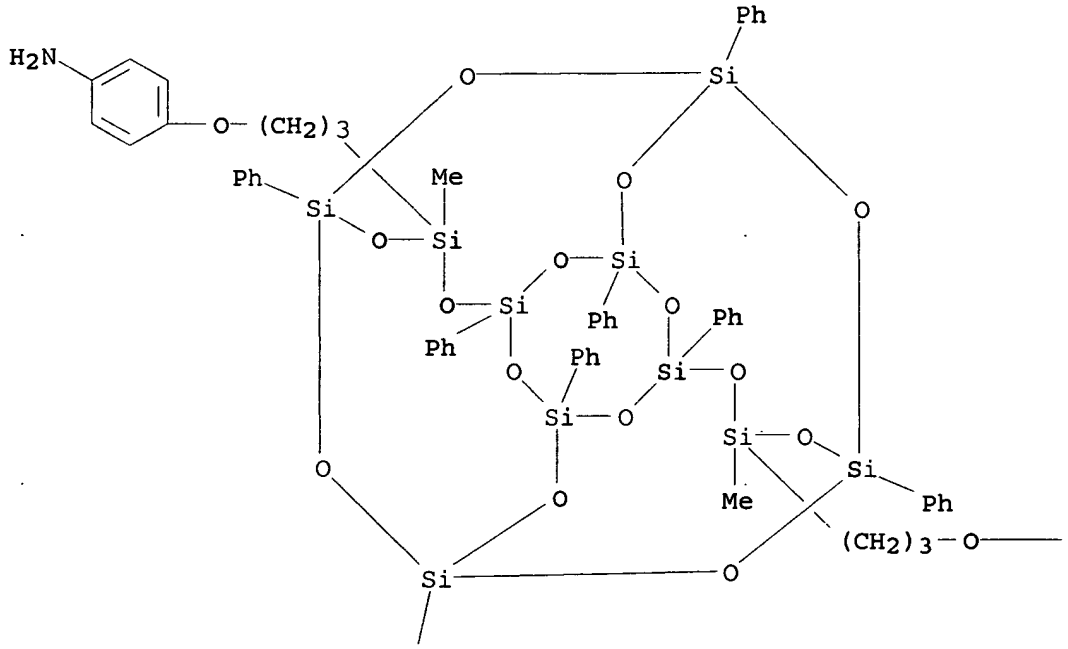
IT 75-54-7, Methyldichlorosilane 100-02-7, p-Nitrophenol, reactions 106-95-6, 3-Bromopropene, reactions 71550-63-5 480439-48-3 480439-49-4 502925-53-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

IT **643018-05-7P**
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(crosslinking agents; low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

RN 643018-05-7 HCAPLUS

CN Benzenamine, 4,4'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)bis(3,1-propanediyloxy)]bis- (9CI) (CA INDEX NAME)

PAGE 1-A



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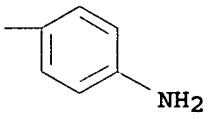

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IT **643018-08-0P 643018-09-1P 643018-10-4P**
643018-11-5P
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)

RN 643018-08-0 HCAPLUS

CN 2-Propenoic acid, (9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl ester, polymer with 4-[2-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]ethyl]-1,2-cyclohexanediyl di-2-propenoate and 1-[[3-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]propoxy]methyl]-1,2-ethanediyl di-2-propenoate (9CI) (CA INDEX NAME)

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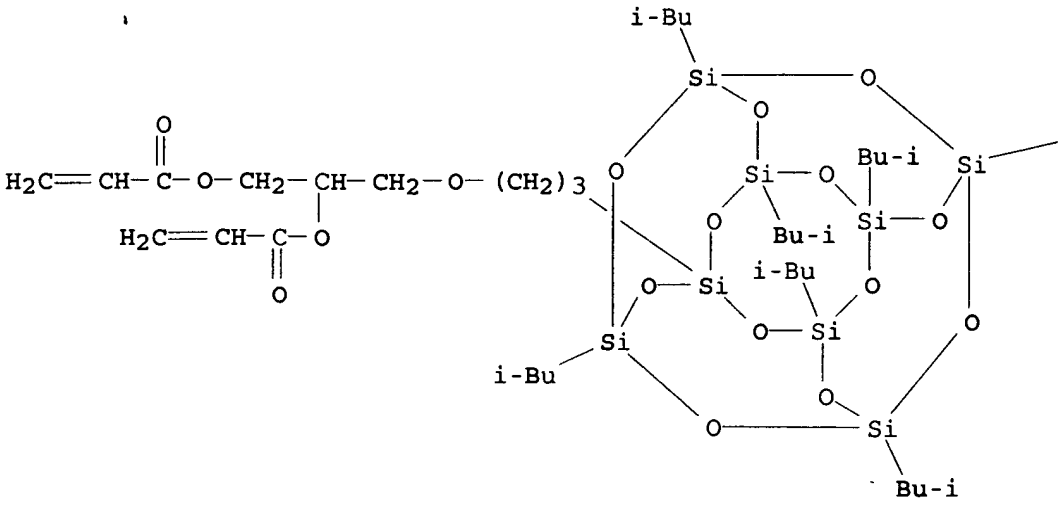
CRN 643018-04-6
CMF C40 H80 O17 Si8

PAGE 1-A



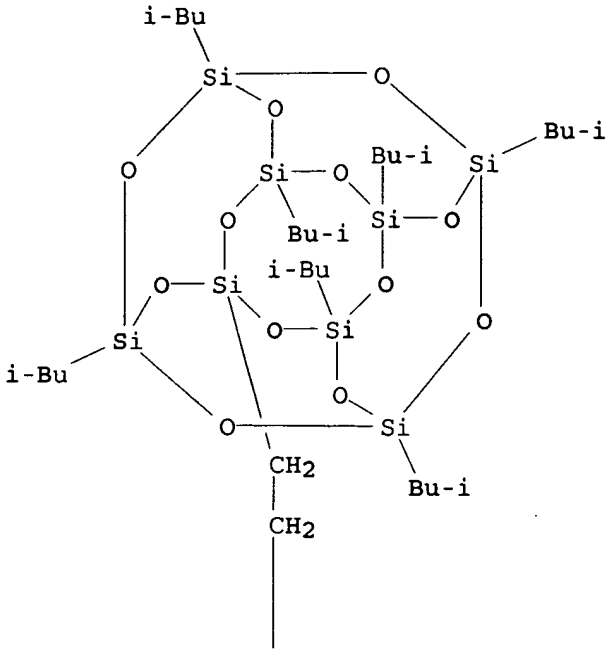
PAGE 1-B

Bu-i

CM 2

CRN 643018-03-5
CMF C42 H82 O16 Si8

PAGE 1-A



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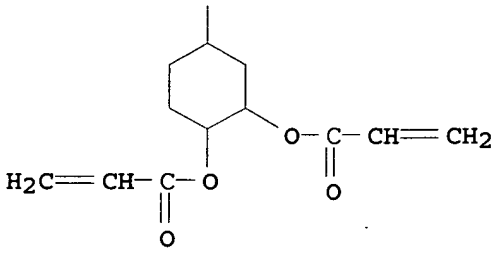
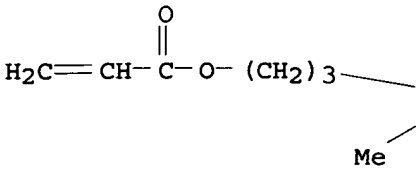


CM 3

CRN 502925-58-8
CMF C62 H64 O18 Si10

PAGE 1-A



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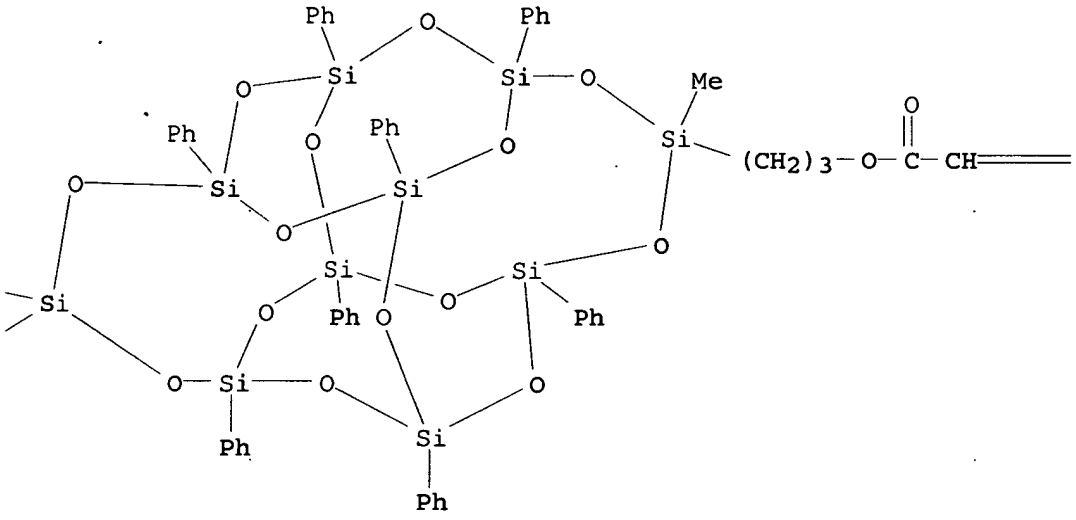

PAGE 1-C

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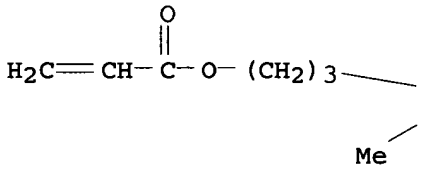
phenyleneoxymethylene)]bis[oxirane] homopolymer 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 502925-58-8
CMF C62 H64 O18 Si10

PAGE 1-A



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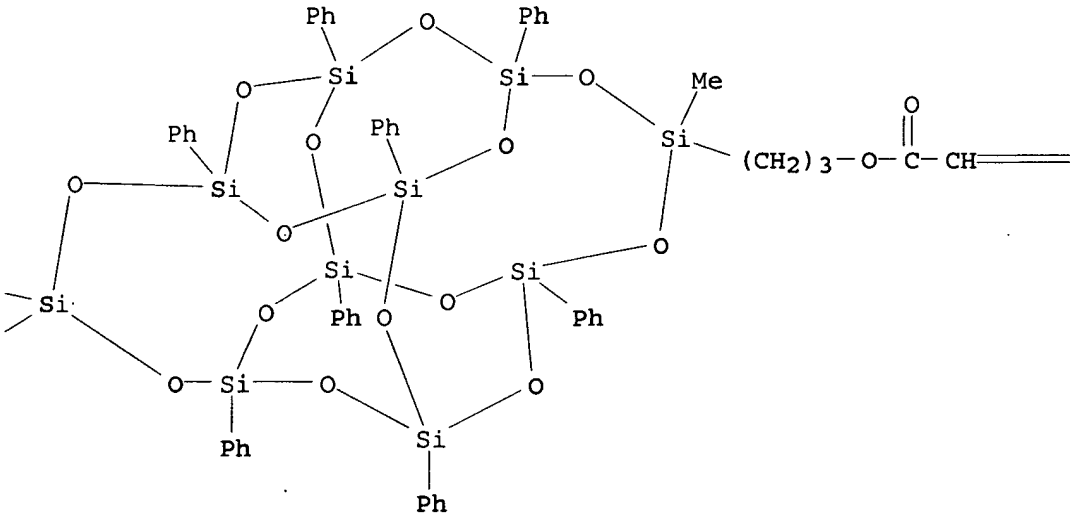

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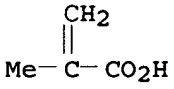
CM 2

CRN 39290-46-5
CMF (C21 H24 O4)x . x C4 H6 O2

CM 3

CRN 79-41-4
CMF C4 H6 O2

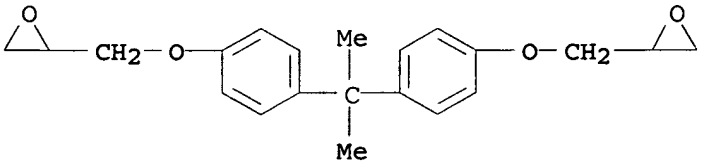


CM 4

CRN 25085-99-8
CMF (C21 H24 O4)x
CCI PMS

CM 5

CRN 1675-54-3
CMF C21 H24 O4

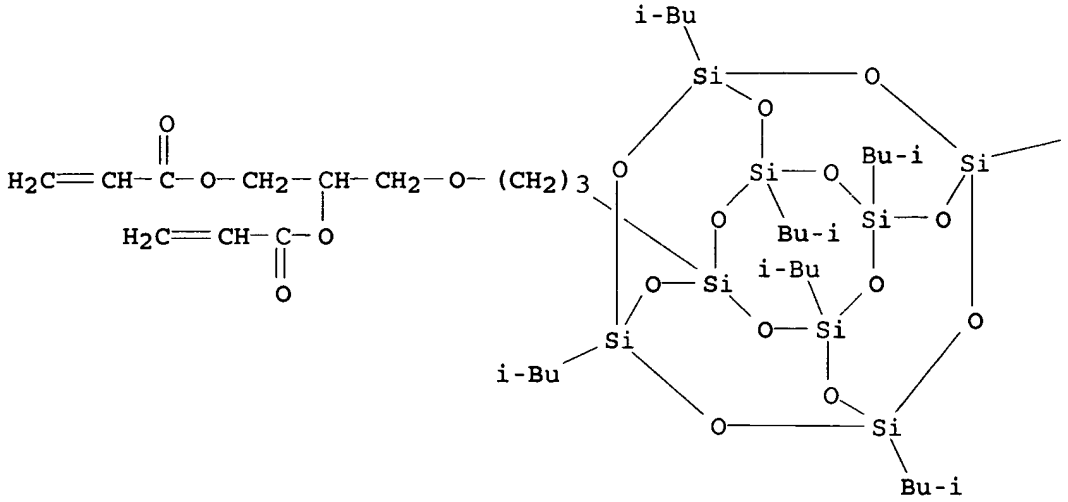


RN 643018-10-4 HCAPLUS
CN 2-Propenoic acid, (9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl ester, polymer with 1-[[3-[heptakis(2-methylpropyl)pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxanyl]propoxy]methyl]-1,2-ethanediyl di-2-propenoate and 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] homopolymer 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 643018-04-6
CMF C40 H80 O17 Si8

PAGE 1-A



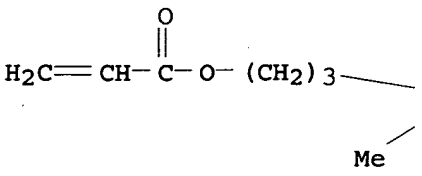
PAGE 1-B

Bu-i

CM 2

CRN 502925-58-8
CMF C62 H64 O18 Si10

PAGE 1-A



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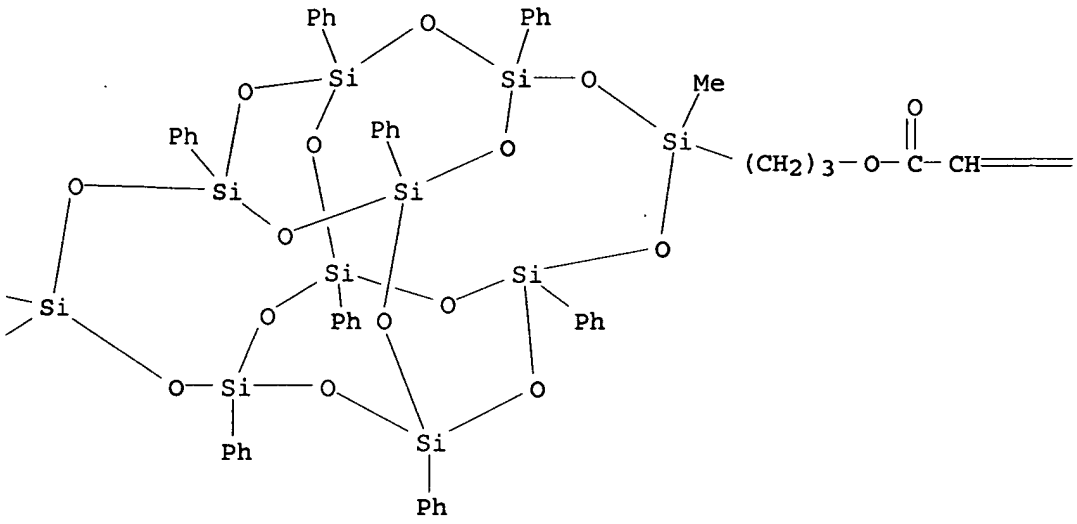

PAGE 1-C

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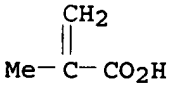
CM 3

CRN 39290-46-5
CMF (C21 H24 O4)x . x C4 H6 O2

CM 4

CRN 79-41-4
CMF C4 H6 O2



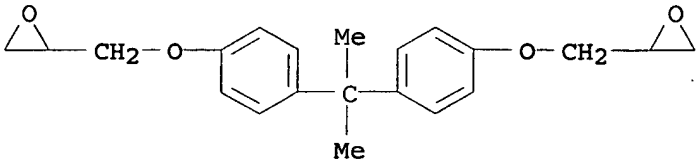
CM 5

CRN 25085-99-8

CMF (C21 H24 O4)x
CCI PMS

CM 6

CRN 1675-54-3
CMF C21 H24 O4



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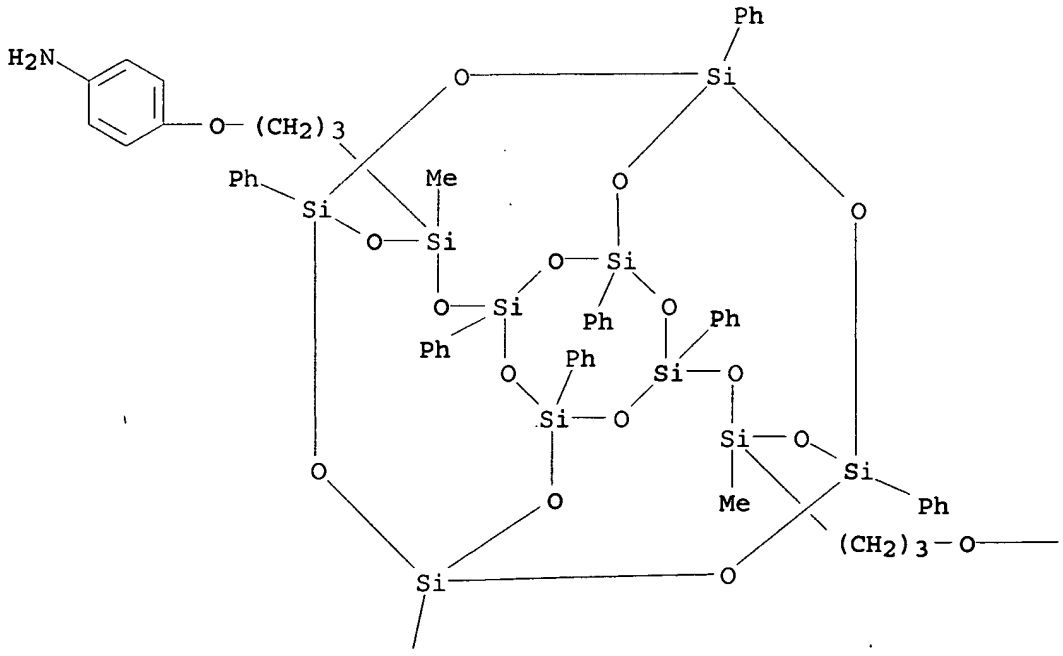
CM 1

CRN 643018-05-7
CMF C68 H70 N2 O16 Si10

PAGE 1-A



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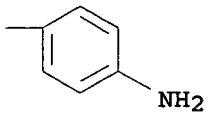

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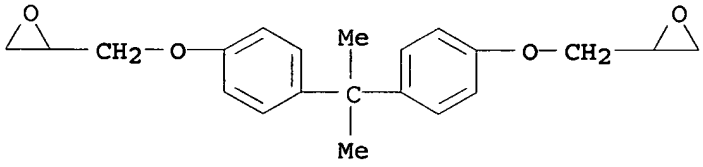
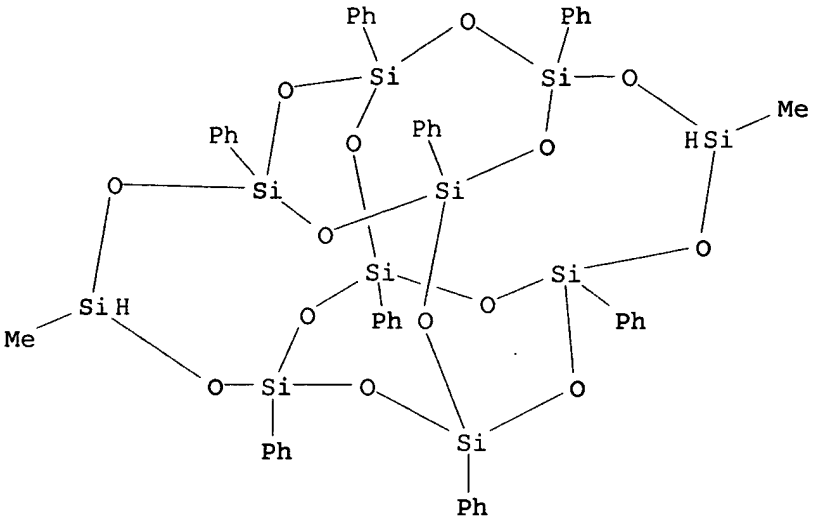
Ph

CM 2

CRN 1675-54-3
CMF C21 H24 O4

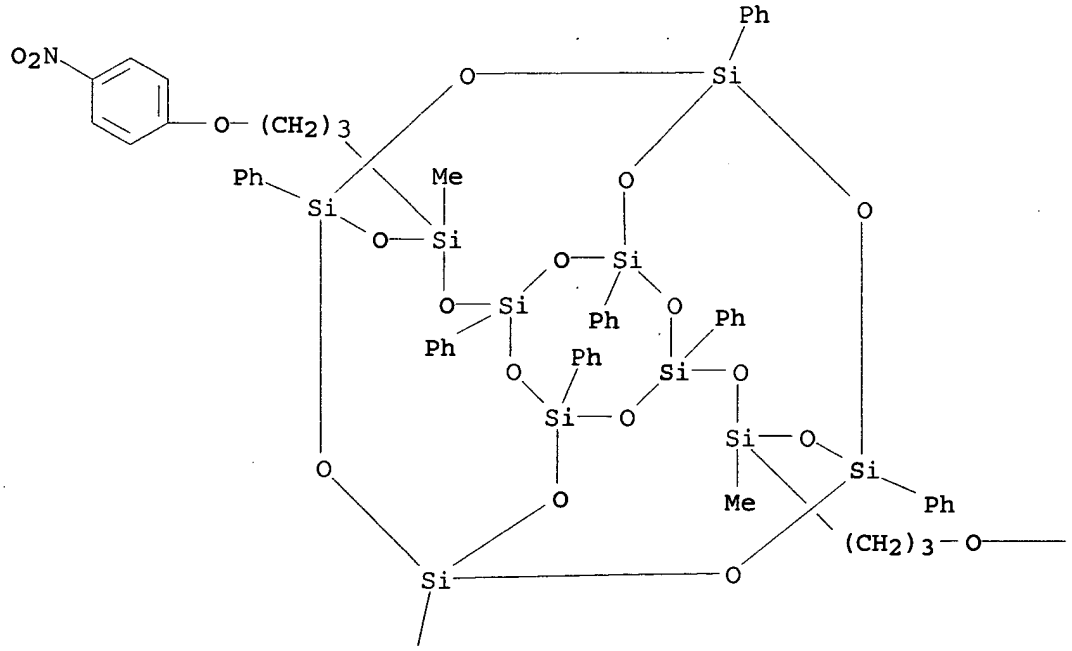


IT **502925-56-6P 643018-06-8P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)
RN 502925-56-6 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

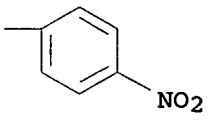


RN 643018-06-8 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-9,19-bis[3-(4-nitrophenoxy)propyl]-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

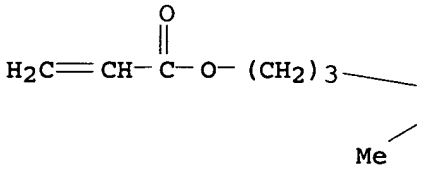


PAGE 2-A

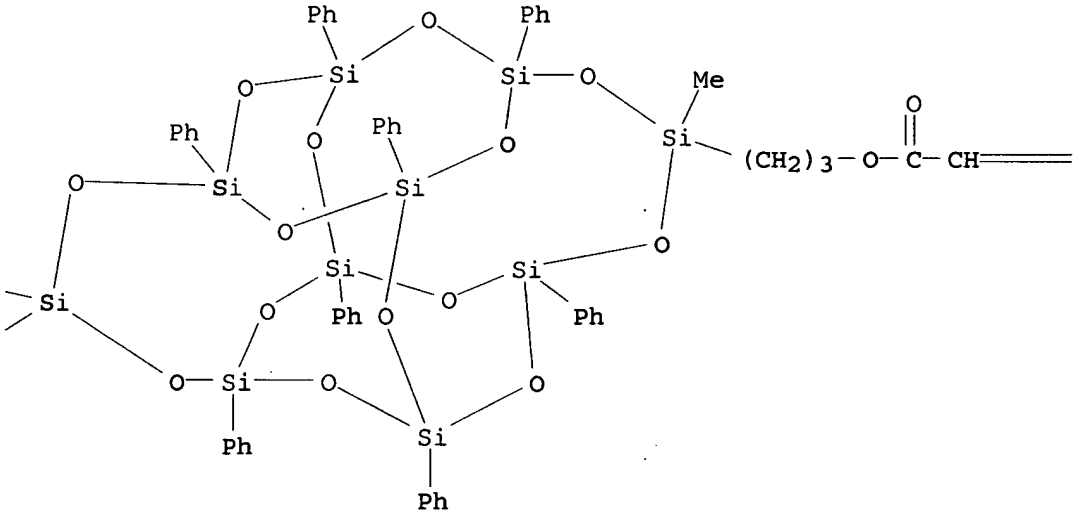
Ph

IT **502925-58-8P**
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(low-moisture-permeable and long-life photocurable sealants containing POSS derivs. for LCD sealing)
RN 502925-58-8 HCAPLUS
CN 2-Propenoic acid, (9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



PAGE 1-C

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L9 ANSWER 14 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:242256 HCAPLUS
DN 138:255640

TI Silsesquioxane derivatives and process for production thereof
IN Morimoto, Yoshitaka; Watanabe, Kenichi; Ootake, Nobumasa; Inagaki, Jyunichi; Yoshida, Kazuhiro; Ohguma, Koji
PA Chisso Corp., Japan
SO PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003024870	A1	20030327	WO 2002-JP9538	20020917
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
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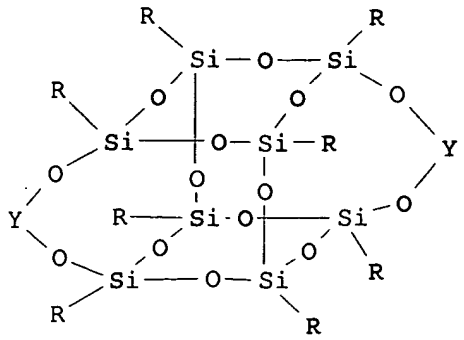
	JP 2002-257738	A	20020903		
	WO 2002-JP9538	W	20020917		

OS MARPAT 138:255640
GI



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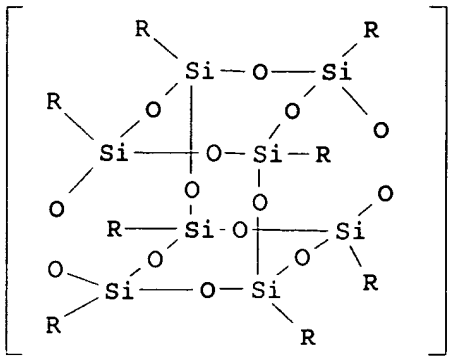


4M

II

AB Completely condensed silsesquioxane derivs. I [R = H, C1-45 alkyl, (un)substituted aryl or arylalkyl; Y = X2Si, X2SiZSiX2; X = H, halo, OH, monovalent organic group; Z = O, CH2, single bond], to which functional groups can be easily introduced, are produced by using incompletely condensed silsesquioxane derivs. II (M = alkali metal). The silsesquioxane derivs. are useful for manufacture of optical or electronic materials, catalyst supports, polymers (no data), etc. Thus, II (R = Ph, M = Na) was prepared and reacted with (3-methacryloyloxypropyl)methyldichlor osilane to give I (Y = H2C:CMeCO2CH2CH2CH2SiMe).

IC ICM C01F007-08
ICS C07F007-12; C07F007-18; C08G077-20; C08G077-14; C08G065-22; C08F299-08

CC 35-2 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 29

ST silsesquioxane methacrylate prepn; functional deriv cage silsesquioxane prepn

IT Silsesquioxanes
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of silsesquioxane derivs. containing functional or polymerizable groups)

IT 502925-52-2P **502925-54-4P 502925-55-5P**
502925-57-7P 502925-58-8P 502925-59-9P
502925-60-2P 502925-61-3P 502925-62-4P
502925-63-5P 502925-64-6P 502925-65-7P
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of silsesquioxane derivs. containing functional or polymerizable groups)

IT 502925-53-3P **502925-56-6P**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of silsesquioxane derivs. containing functional or polymerizable groups)

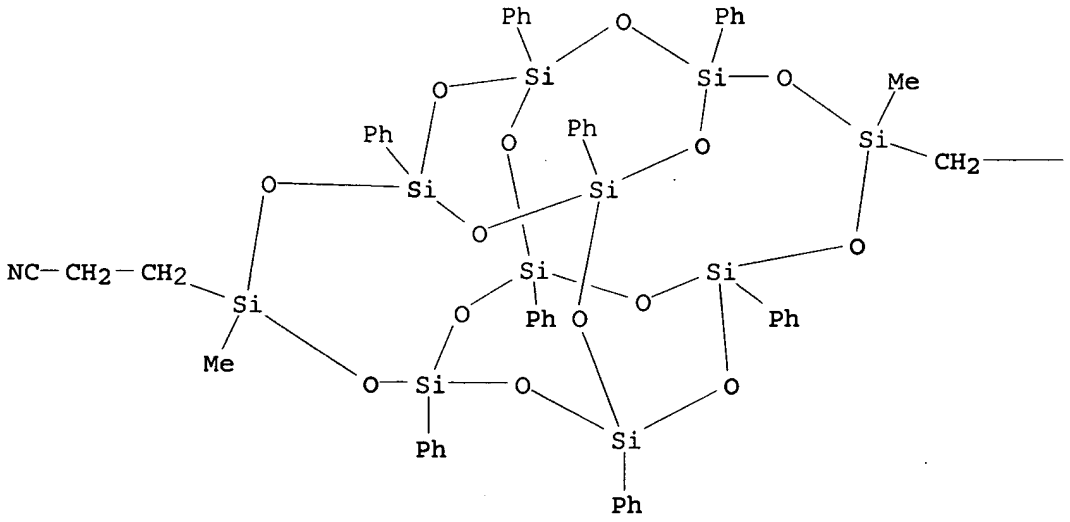
IT 75-54-7, Methyldichlorosilane 75-79-6, Methyltrichlorosilane 106-92-3, Allyl glycidyl ether 124-70-9, Dichloromethylvinylsilane 1071-21-2, (2-Cyanoethyl)methyldichlorosilane 2996-92-1, Phenyltrimethoxysilane 5290-24-4, (3-Acetoxypropyl)dichloromethylsilane 7539-12-0, Allylsuccinic acid anhydride 10026-04-7, Tetrachlorosilane 18165-33-8, 1,3-Dichloro-1,3-dimethyldisiloxane 18301-56-9, (3-Methacryloyloxypropyl)methyldichlorosilane 24070-84-6, 3-Chloropropyldichlorosilane 71550-63-5, (3-Acryloyloxypropyl)dichloromethylsilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of silsesquioxane derivs. containing functional or polymerizable groups)

IT **502925-54-4P 502925-55-5P 502925-57-7P 502925-58-8P 502925-59-9P 502925-60-2P 502925-61-3P 502925-63-5P 502925-64-6P 502925-65-7P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of silsesquioxane derivs. containing functional or polymerizable groups)

RN 502925-54-4 HCAPLUS

CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-dipropanenitrile, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

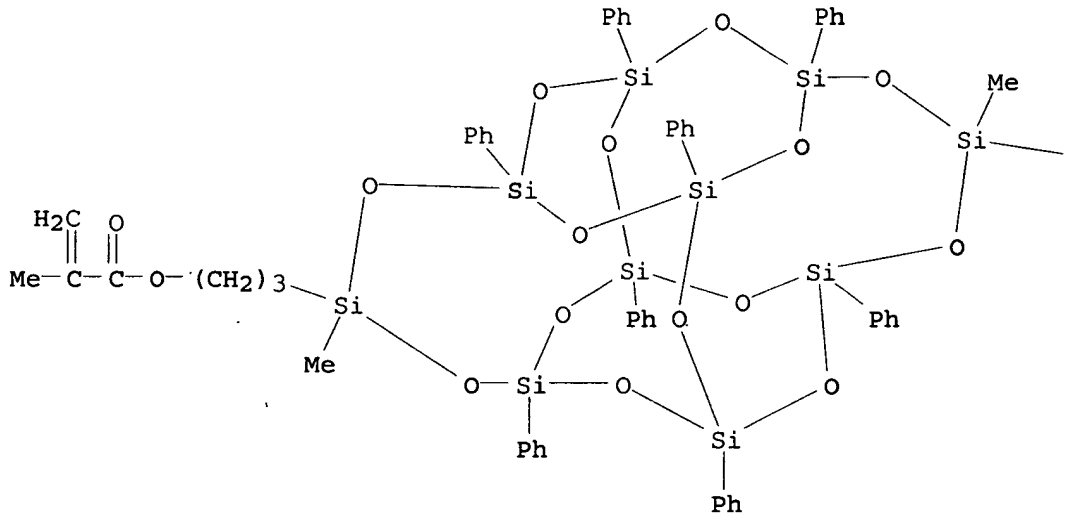
PAGE 1-A



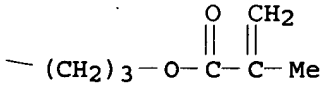
PAGE 1-B

RN 502925-55-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, (9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A

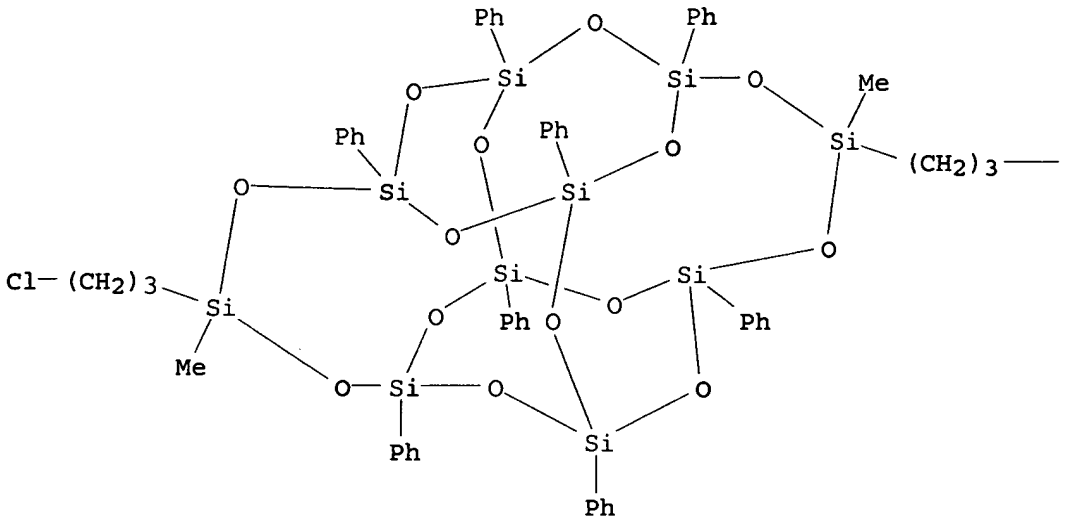


PAGE 1-B



RN 502925-57-7 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-bis(3-chloropropyl)-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

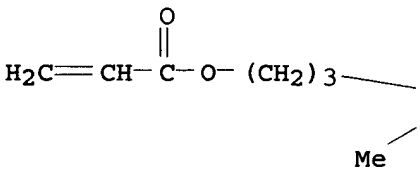


PAGE 1-B

— Cl

RN 502925-58-8 HCAPLUS
CN 2-Propenoic acid, (9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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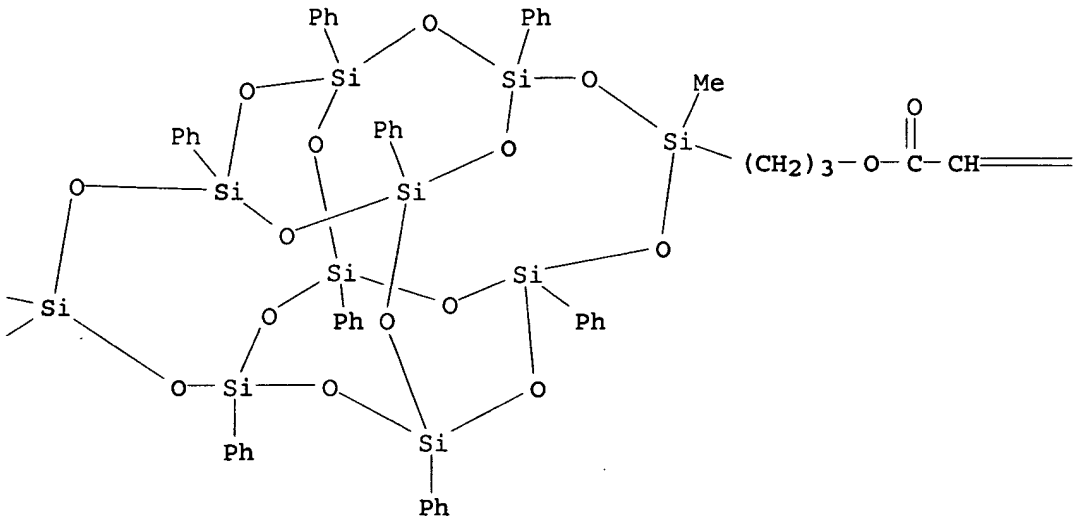
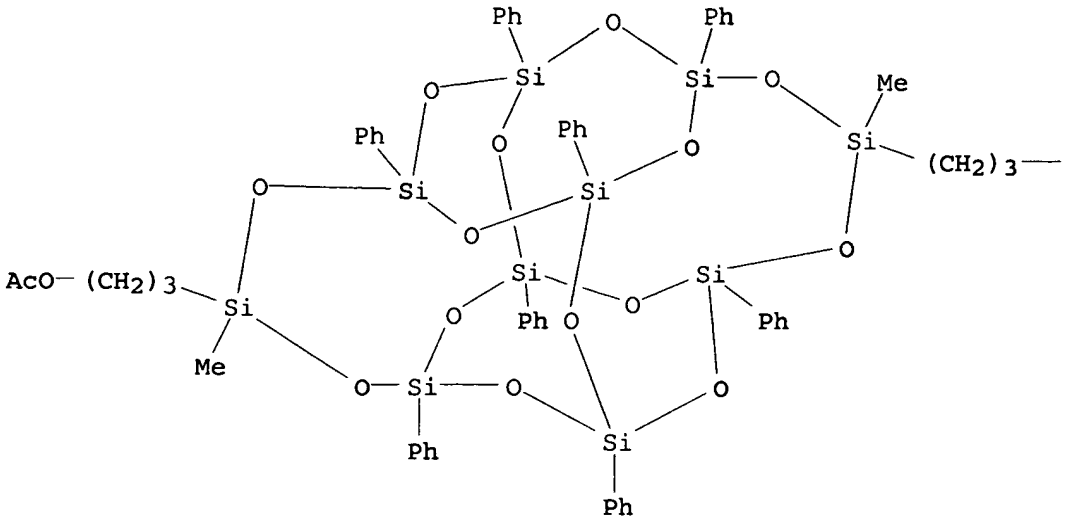


PAGE 1-C

$=CH_2$

RN 502925-59-9 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-dipropanol, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl-, diacetate (9CI) (CA INDEX NAME)

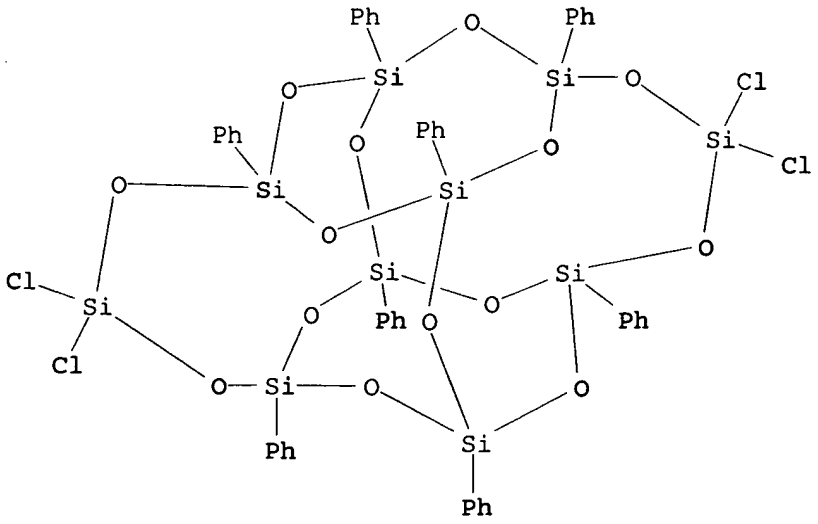
PAGE 1-A



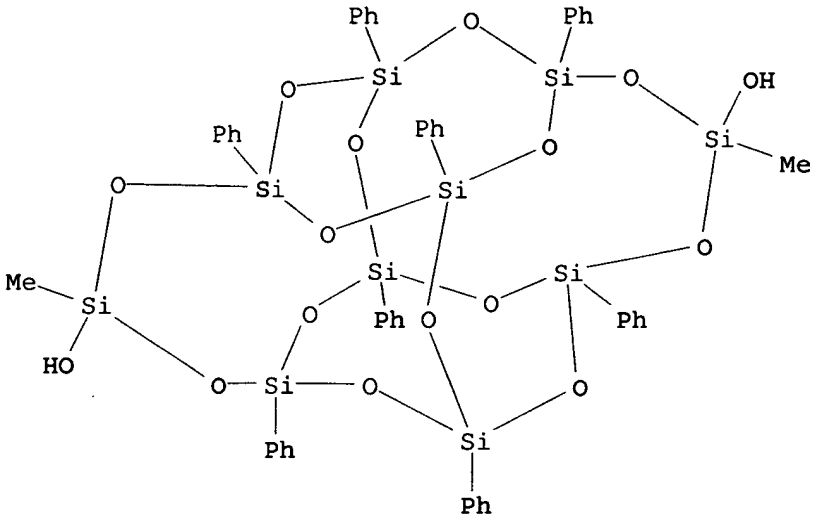
PAGE 1-B

— OAc

RN 502925-60-2 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,9,19,19-tetrachloro-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

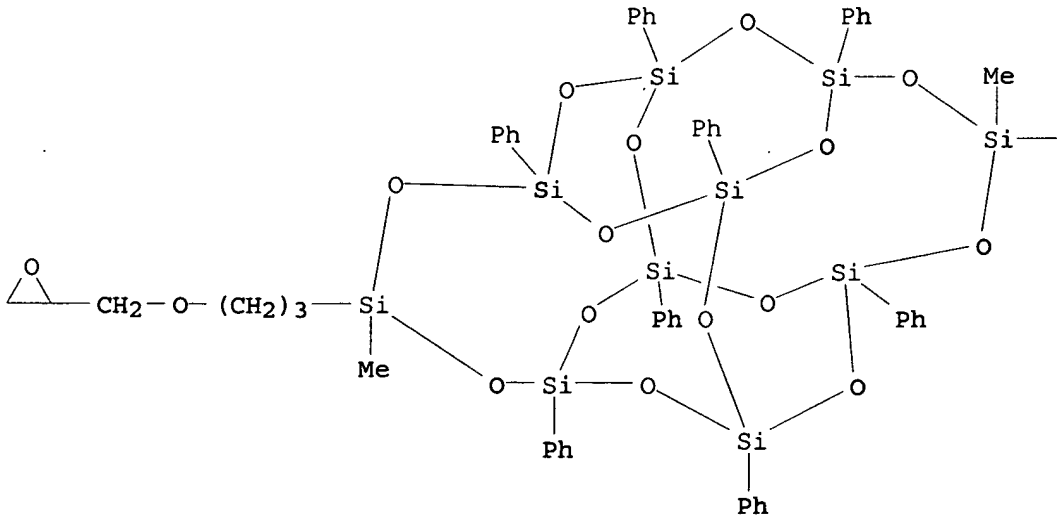


RN 502925-61-3 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diol, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)



RN 502925-63-5 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-9,19-bis[3-(oxiranylmethoxy)propyl]-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A



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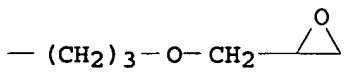
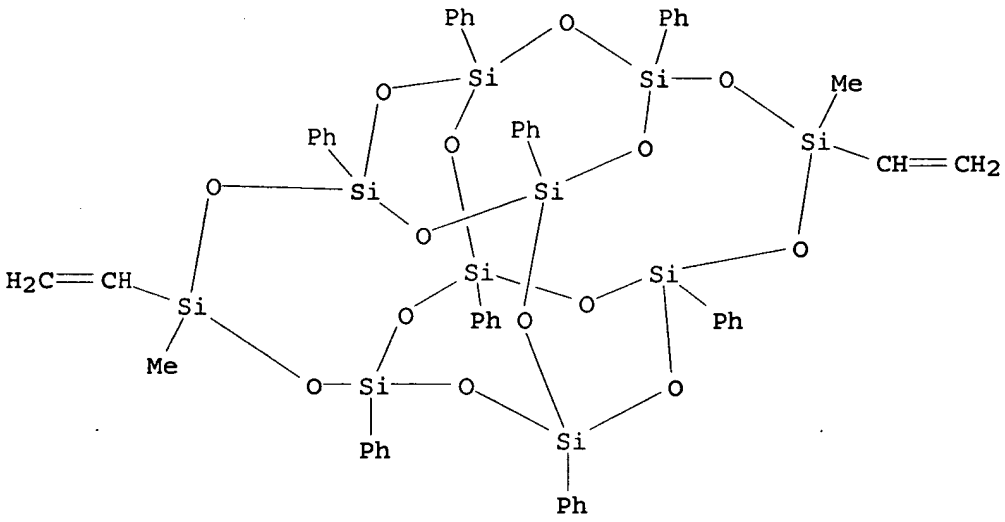
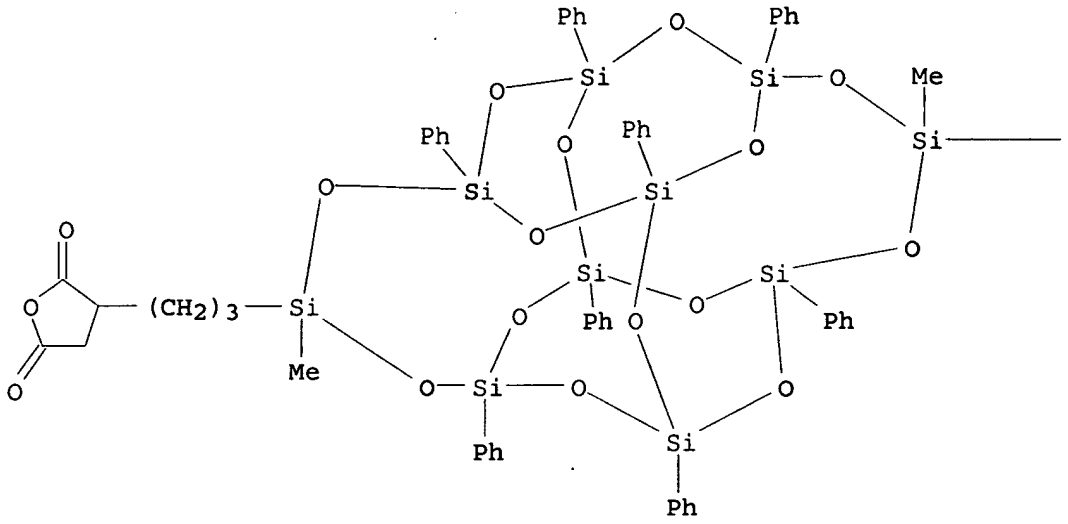


RN 502925-64-6 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-diethenyl-9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)

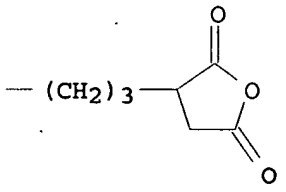


RN 502925-65-7 HCAPLUS
CN 2,5-Furandione, 3,3'-[(9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenylpentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane-9,19-diyl)di-3,1-propanediyl]bis[dihydro- (9CI) (CA INDEX NAME)

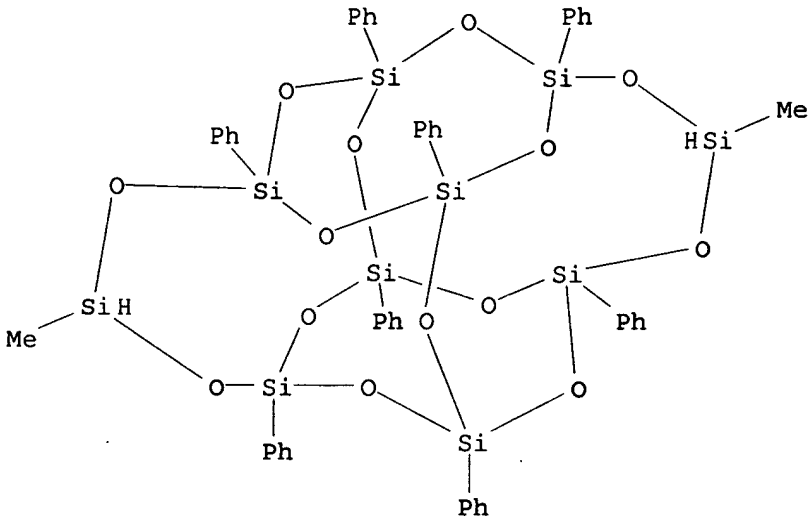
PAGE 1-A



PAGE 1-B



IT **502925-56-6P**
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of silsesquioxane derivs. containing functional or polymerizable groups)
RN 502925-56-6 HCAPLUS
CN Pentacyclo[11.7.1.13,11.15,17.17,15]decasiloxane, 9,19-dimethyl-1,3,5,7,11,13,15,17-octaphenyl- (9CI) (CA INDEX NAME)



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 15 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:408727 HCAPLUS
DN 137:6918
TI Colorless UV-absorbing pigment and composition for use in laser marking
IN Daga, Vijay; Dahl, Klaus J.
PA Tyco Electronics Corporation, USA
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002042371	A2	20020530	WO 2001-US43435	20011121
	WO 2002042371	A3	20030109		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2429596	AA	20020530	CA 2001-2429596	20011121
	AU 2002037656	A5	20020603	AU 2002-37656	20011121
	US 2002155291	A1	20021024	US 2001-990107	20011121
	US 6825265	B2	20041130		
	EP 1339782	A2	20030903	EP 2001-986460	20011121
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	CN 1529734	A	20040915	CN 2001-822160	20011121
	JP 2004538338	T2	20041224	JP 2002-545083	20011121
	RU 2268904	C2	20060127	RU 2003-118417	20011121
	BR 2001015537	A	20060502	BR 2001-15537	20011121
	ZA 2003003454	A	20050318	ZA 2003-3454	20030506
	US 2005058939	A1	20050317	US 2004-946410	20040921

PRAI US 2000-252286P P 20001121
US 2001-990107 A3 20011121
WO 2001-US43435 W 20011121

AB The pigment (TiO2) comprises at least partially coated with a synergist having the formula of [Rm(SiOn)]pR'q (m, n = 1-3; p ≥1; q = 0-3; at least R or R' is a substituent that upon pyrolysis generates a black material suitable for providing a mark; e.g., dodecaphenyl silsesquioxane). Such pigments are useful in fluoropolymers (e.g., propylvinyl ether-tetrafluoroethylene copolymer) used for wire and cable insulation.

IC ICM C08K009-00

CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

ST UV absorbing pigment laser marking; fluoropolymer wire cable insulator; silsesquioxane coated pigment UV absorber

IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(Ph, ladder or polyhedral cage, PM 1270, and Gelest SST 3P01, pigments coated by; colorless UV-absorbing pigment and composition for use in laser marking)

IT Coating materials
(UV-absorbing; colorless UV-absorbing pigment and composition for use in laser marking)

IT UV stabilizers
(colorless UV-absorbing pigment and composition for use in laser marking)

IT Electric insulators
(fluoropolymer containing synergist-coated pigment; colorless UV-absorbing pigment and composition for use in laser marking)

IT Silsesquioxanes
RL: TEM (Technical or engineered material use); USES (Uses)
(pigments coated by; colorless UV-absorbing pigment and composition for use in laser marking)

IT Fluoropolymers, properties
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(synergist-coated pigment-containing; colorless UV-absorbing pigment and composition for use in laser marking)

IT Pigments, nonbiological
(synergist-coated; colorless UV-absorbing pigment and composition for use in laser marking)

IT 51350-55-1, Phenyltrimethoxysilane homopolymer, sru
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(CP 0330, pigments coated by; colorless UV-absorbing pigment and composition for use in laser marking)

IT 13463-67-7, Titanium dioxide, uses
RL: MOA (Modifier or additive use); USES (Uses)
(Kronos 2078, synergist-coated; colorless UV-absorbing pigment and composition for use in laser marking)

IT **18923-59-6**
RL: TEM (Technical or engineered material use); USES (Uses)
(MS 0802; pigments coated by; colorless UV-absorbing pigment and composition for use in laser marking)

IT 89885-26-7, Phenyltrimethoxysilane homopolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(pigments coated by; colorless UV-absorbing pigment and composition for use in laser marking)

IT 9002-84-0, PTFE 25038-71-5, Ethylene-tetrafluoroethylene copolymer
25067-11-2, Hexafluoropropylene-tetrafluoroethylene copolymer

39613-22-4, Methyl vinyl ether-tetrafluoroethylene copolymer
147933-93-5, Propylvinyl ether-tetrafluoroethylene copolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(synergist-coated pigment-containing; colorless UV-absorbing pigment and composition for use in laser marking)

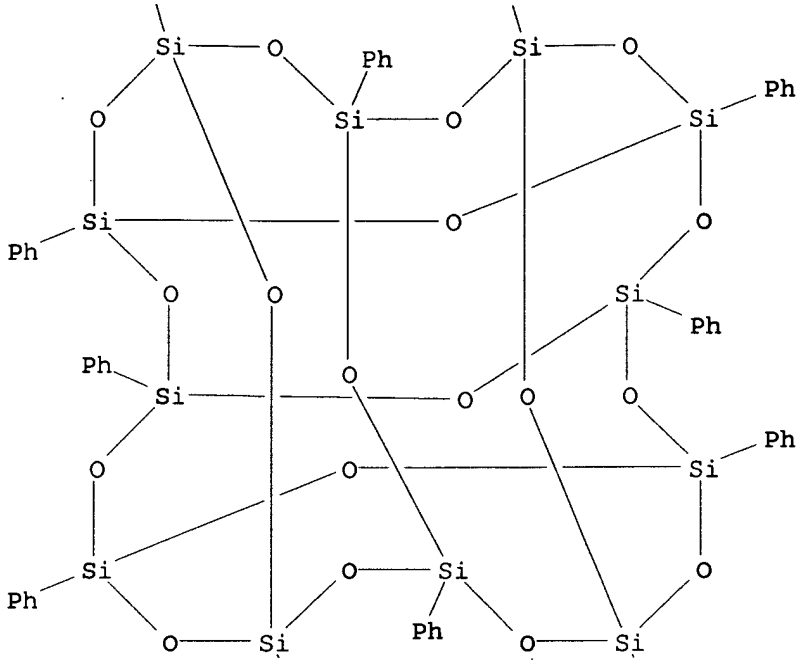
IT 1314-13-2, Zinc oxide, uses 1314-98-3, Zinc sulfide, uses
RL: MOA (Modifier or additive use); USES (Uses)
(synergist-coated; colorless UV-absorbing pigment and composition for use in laser marking)

IT **18923-59-6**
RL: TEM (Technical or engineered material use); USES (Uses)
(MS 0802; pigments coated by; colorless UV-absorbing pigment and composition for use in laser marking)

RN 18923-59-6 HCAPLUS
CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A



PAGE 3-A

L9 ANSWER 16 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:379096 HCAPLUS
DN 137:186315
TI Viscoelastic and mechanical properties of vinyl ester (VE)/multifunctional polyhedral oligomeric silsesquioxane (POSS) nanocomposites and multifunctional POSS-styrene copolymers
AU Li, G. Z.; Wang, L.; Toghiani, H.; Daulton, T. L.; Pittman, C. U.
CS Department of Chemistry, Mississippi State University, Mississippi State, MS, 39762, USA
SO Polymer (2002), 43(15), 4167-4176
CODEN: POLMAG; ISSN: 0032-3861
PB Elsevier Science Ltd.
DT Journal
LA English
AB Vinyl ester (VE) composites containing chemical bonded, multifunctional polyhedral oligomeric silsesquioxane (POSS), POSS-1 ((C6H5CHCHO)4(Si8O12)(CH:CHC6H5)4), nanoparticles were prepared with VE/POSS-1 95/5 and 90/10 weight/weight ratios. The mole percents of POSS-1 in these two composites are low (<0.5 and <1%, resp.) due to the high mass of POSS-1 (mwt=1305). VE composites of two non-functional POSS-3 (octaisobutyl POSS) and POSS-4 (dodecaphenyl POSS) derivs. were also prepared with 95/5 weight/weight compns. Addnl., POSS-1 was also incorporated into styrene copolymers at levels of 5 wt% (0.42 mol%) and 10 wt% (0.88

mol%) of POSS-1. The composites and copolymers were characterized by dynamic mech. thermal anal. and mech. testing. The POSS-1 units incorporated into the vinyl ester network were well dispersed. No phase-separation in the VE/POSS-1 90/10 composite could be detected by TEM from low to 8+105 magnification. In VE composites containing 10 wt% POSS-1, silicon-rich phases were observed ranging in size from a few nm to .apprx.75 nm by electron energy loss spectroscopy (EELS). TEM, EDXS, EELS and extraction studies suggest that some POSS-1-rich nanoparticles in the VE/POSS-1 90/10 composite are present and also a fraction of the POSS-1 is molecularly dispersed within the VE resin. The POSS-1-rich dispersed phase portion is cross-linked, insol. and contains some VE. VE/POSS-3 and VE/POSS-4 composites exhibited larger-sized POSS phases which do not contain VE. Incorporating low mole percentages of POSS-1 into the VE network by chemical bonds or blending non-functional POSS-3 or 4 into VE resin have almost no influence on Tg or on the width of the tan δ peak in the glass transition range. POSS-1-styrene copolymers exhibit good miscibility at 5 wt% POSS-1 but serious phase-separation occurs in the copolymer with 10 wt% POSS-1 content. POSS-1-styrene copolymers swelled but did not dissolve in THF (THF) demonstrating they had been cross-linked by POSS-1. No POSS-1 was extracted into the THF. The POSS-1-styrene copolymers have higher Tg values vs. pure polystyrene (PS) prepared at the same conditions. The Tg elevation could be due to the crosslinking resulting from the four β-substituted styryl functions in POSS-1 and due to the effect of high mol. weight POSS units retarding segmental motion of a portion of the chain segments. The Tg of the 10 wt% POSS-1 copolymer is almost the same as that of the 5 wt% POSS-1 copolymer because the continuous phase in the 10 wt% POSS-1 copolymer might have a crosslinking d. similar to that of the 5 wt% POSS-1 copolymer. The low POSS-1 mol percentage means that many all-styrene segments exist that can undergo segmental motion without being retarded by POSS. The tan δ peak for 10 wt% POSS-1 copolymer is much broader and less intense than that for PS or 5 wt% POSS-1 copolymer. A higher average crosslinking d. and much less segmental motion in the dispersed POSS-1-rich phase account for this behavior in the 10 wt% copolymer. The bending storage modulus, E', values of the VE/POSS-1 composites and the POSS-1-styrene copolymers are higher than those of either the neat vinyl ester resin or pure PS, resp., over entire temperature range, especially at the low POSS-1 content (5 wt%). The incorporation of multifunctional POSS-1 into vinyl ester or PS by chemical bonding improves the thermal dimensional stabilities. The flexural modulus of the vinyl ester resin is raised by incorporation of POSS-1 while the flexural strengths are lowered. VE resin and VE/POSS-1 composites gave negligible weight gains after 50 days in toluene. The VE and composite samples cracked and fragmented after submersion in THF.

CC 37-6 (Plastics Manufacture and Processing)

ST Silsesquioxane styrene copolymer vinyl ester nanocomposite viscoelasticity mech

IT Vinyl compounds, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(ester group-containing, polymers; viscoelastic and mech. properties of vinyl ester/multifunctional polyhedral oligomeric silsesquioxane nanocomposites and copolymers)

IT Bending strength
Mechanical loss
Polymer morphology
Storage modulus
Viscoelasticity
(viscoelastic and mech. properties of vinyl ester/multifunctional polyhedral oligomeric silsesquioxane nanocomposites and copolymers)

IT Silsesquioxanes
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(viscoelastic and mech. properties of vinyl ester/multifunctional polyhedral oligomeric silsesquioxane nanocomposites and copolymers)

IT 449735-25-5P
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(viscoelastic and mech. properties of vinyl ester/multifunctional polyhedral oligomeric silsesquioxane nanocomposites and copolymers)

IT **18923-59-6** 209913-35-9 221326-46-1 386264-42-2
RL: PRP (Properties)
(viscoelastic and mech. properties of vinyl ester/multifunctional polyhedral oligomeric silsesquioxane nanocomposites and copolymers)

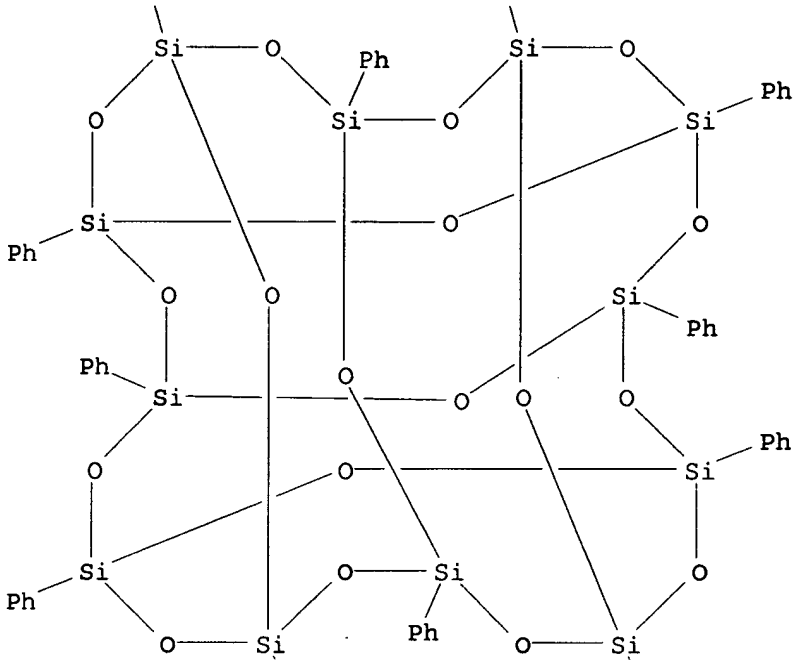
IT **18923-59-6**
RL: PRP (Properties)
(viscoelastic and mech. properties of vinyl ester/multifunctional polyhedral oligomeric silsesquioxane nanocomposites and copolymers)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

PAGE 1-A

PAGE 2-A



PAGE 3-A

RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 17 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:115153 HCAPLUS
DN 134:179001
TI Process for the formation of polyhedral oligomeric silsesquioxanes
IN Lichtenhan, Joseph D.; Schwab, Joseph J.; Reinerth, William; Carr, Michael J.; An, Yi-zong; Feher, Frank J.; Terroba, Rachel
PA Hybrid Plastics, USA
SO PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001010871	A1	20010215	WO 2000-US21455	20000803

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,

DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1208105		A1	20020529	EP 2000-952570	20000803
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
JP 2003510337		T2	20030318	JP 2001-526838	20000803
US 6972312		B1	20051206	US 2000-631892	20000804
HK 1050692		A1	20060303	HK 2003-102950	20030425
PRAI US 1999-147435P		P	19990804		
WO 2000-US21455		W	20000803		

AB Three processes for the manufacture of polyhedral oligomeric silsesquioxanes (POSS) which utilize the action of bases that are capable of either attacking silicon or any compound that can react with a protic solvent (e.g., ROH, H2O etc.) and generate hydroxide [OH]-; alkoxide [RO]-, etc. The first process utilizes such bases to effectively redistribute the silicon-oxygen frameworks in polymeric silsesquioxanes [RSiO1.5]inf where inf = 1-1,000,000 or higher into POSS nanostructures of formulas [(RSiO1.5)n]Σ#, homoleptic, [(RXSiO1.5)n]Σ#, functionalized homoleptic, [(RSiO1.5)m(R'SiO1.5)n]Σ#, heteroleptic, {(RSiO1.5)m(RXSiO1.0)n}Σ#, and functionalized heteroleptic nanostructures. The second process utilizes base to aid in the formation of POSS nanostructures of formulas [(RSiO1.5)n]Σ#, homoleptic and [(RSiO1.5)m(R'SiO1.5)n]Σ#, heteroleptic and [(RSiO1.5)m(RXSiO1.0)n]Σ#, functionalized heteroleptic nanostructures from silanes RSiX3 and linear or cyclic silsesquioxanes of the formula RX2Si-(OSiRX)m-OSiRX2 where m=0-10, X=OH, Cl, Br, I, alkoxide OR, acetate OOCR, peroxide OOR, amine NR2, isocyanate NCO, and R. The third process utilizes base to selectively ring-open the silicon-oxygen-silicon (Si-O-Si) bonds in POSS structures to form POSS species with incompletely condensed nanostructures. These processes also afford stereochem. control over X. The three processes result in new POSS species that can undergo addnl. chemical manipulations to ultimately be converted into POSS-species suitable for polymerization, grafting, or other desirable chemical reactions.

IC ICM C07F007-08
ICS C08G077-06

CC 35-7 (Chemistry of Synthetic High Polymers)

ST nanostructure POSS siloxane silsesquioxane oligomer manuf; polyhedral silsesquioxane oligomer manuf; cage polymer silsesquioxane oligomer POSS

IT Bases, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst; process for formation of polyhedral oligomeric silsesquioxanes)

IT Silsesquioxanes
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; process for formation of polyhedral oligomeric silsesquioxanes)

IT 75-59-2, Tetramethylammonium hydroxide 100-85-6, Trimethylbenzylammonium hydroxide 1310-58-3, Potassium hydroxide, uses
RL: CAT (Catalyst use); USES (Uses)
(catalyst; process for formation of polyhedral oligomeric silsesquioxanes)

IT 160511-97-7P, Phenyltrichlorosilane hydrolytic homopolymer
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; process for formation of polyhedral oligomeric silsesquioxanes)

IT 3809-28-7P 17865-85-9P 18971-70-5P 75899-36-4P 149311-20-6P 154346-59-5P 183387-28-2P 254747-22-3P 307531-90-4P 307531-92-6P 326621-03-8P 326621-04-9P 326621-05-0P 326621-06-1P 326621-07-2P 326621-08-3P 326621-09-4P 326621-10-7P 326621-11-8P 326621-12-9P

326621-13-0P 326621-14-1P 326621-15-2P 326621-16-3P 326621-17-4P
326621-18-5P 326621-19-6P 326621-20-9P 326621-21-0P 326621-22-1P
326621-23-2P 326864-50-0P 326865-04-7P 326865-07-0P 326865-09-2P
RL: IMF (Industrial manufacture); PREP (Preparation)
(process for formation of polyhedral oligomeric silsesquioxanes)

IT 5256-79-1P, Octa(phenylsilsesquioxane) **18923-59-6P** 19086-35-2P
47904-22-3P 69655-76-1P, Octa(vinylsilsesquioxane) 85233-78-9P
92888-99-8P 119329-56-5P 221326-46-1P 230316-02-6P 268202-73-9P
308103-65-3P 326620-92-2P 326620-98-8P 326620-99-9P 326621-00-5P
326864-92-0P 326864-95-3P
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(process for formation of polyhedral oligomeric silsesquioxanes)

IT 2768-02-7, Vinyltrimethoxysilane 100691-57-4 226726-51-8 326621-24-3
326621-25-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for cross reaction or rearrangement reaction; process for formation of polyhedral oligomeric silsesquioxanes)

IT 75-77-4, reactions 556-67-2 1719-58-0, Vinyldimethylchlorosilane
7351-61-3 18301-56-9 198570-38-6 326865-15-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for cross reaction; process for formation of polyhedral oligomeric silsesquioxanes)

IT 18395-30-7, Isobutyltrimethoxysilane 180537-00-2 326865-12-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; process for formation of polyhedral oligomeric silsesquioxanes)

IT 31451-78-2 157374-41-9, Phenylsilanetriol homopolymer 326620-90-0
326620-91-1 326620-93-3 326620-94-4 326620-95-5 326620-97-7
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(starting substrate; process for formation of polyhedral oligomeric silsesquioxanes)

IT 3325-29-9 25498-03-7, Methyltrimethoxysilane homopolymer 33293-03-7
326620-96-6 326621-02-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting substrate; process for formation of polyhedral oligomeric silsesquioxanes)

IT **18923-59-6P**
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(process for formation of polyhedral oligomeric silsesquioxanes)

RN 18923-59-6 HCAPLUS
CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

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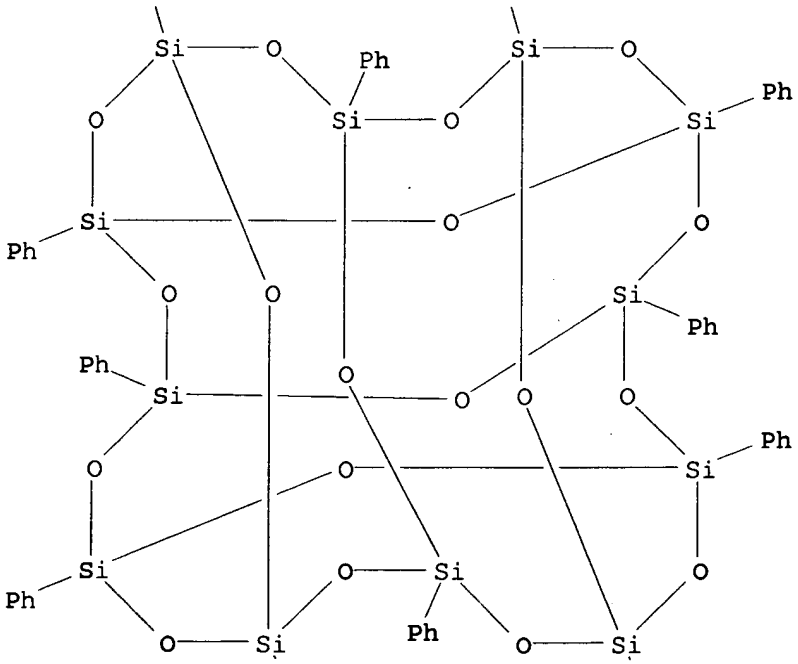

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RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 18 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:605958 HCAPLUS
DN 123:144839
TI Organic-inorganic hybrid silica: chemical reactivity as a tool for studying the solid arrangement as a function of molecular structure
AU Cerveau, Genevieve; Corriu, Robert J. P.; Lepeytre, Cedric
CS UMR 44, Universite Montpellier II, Montpellier, F-34095, Fr.
SO Journal of Materials Chemistry (1995), 5(5), 793-5
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English
AB Chemical reactivity and hydrophilicity studies in organic-inorg. hybrid materials revealed that the arrangement of organic units in a SiO2 matrix depends on the mol. structure of the precursor. Aromatic organosilanes easily form [(η6-organosilyl)arene]tricarbonylchromium complexes upon reaction with Cr(CO)6 or (MeCN)3Cr(CO)3. This reaction was used to test the accessibility of the Ph groups attached to the silica network.
CC 35-8 (Chemistry of Synthetic High Polymers)
ST hydrophilicity organosilylarene tricarbonylchromium hybrid material reactivity
IT Molecular structure-property relationship
(hydrophilicity, hydrophilicity studies in organic-inorg. hybrid materials, i.e., [(η6-organosilyl)arene]tricarbonylchromium complexes prepared, show arrangement of organic units in a SiO2 matrix depends on the mol. structure of the precursor.)
IT Silica gel, reactions
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(reaction products, hydrophilicity studies in organic-inorg. hybrid materials, i.e., [(η6-organosilyl)arene]tricarbonylchromium complexes prepared, show arrangement of organic units in a SiO2 matrix depends on the mol. structure of the precursor.)
IT 2996-92-1 13007-92-6, Chromium hexacarbonyl 16800-46-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrophilicity studies in organic-inorg. hybrid materials, i.e., [(η6-organosilyl)arene]tricarbonylchromium complexes prepared, show arrangement of organic units in a SiO2 matrix depends on the mol. structure of the precursor.)
IT **18923-59-6P** 60354-74-7P 90162-40-6P 98679-14-2P
138813-90-8P 167114-68-3P 167114-69-4P 167114-70-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(hydrophilicity studies in organic-inorg. hybrid materials, i.e., [(η6-organosilyl)arene]tricarbonylchromium complexes prepared, show arrangement of organic units in a SiO2 matrix depends on the mol. structure of the precursor.)
IT 167114-71-8P 167114-72-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(hydrophilicity studies in organic-inorg. hybrid materials, i.e., [(η6-organosilyl)arene]tricarbonylchromium complexes prepared, show arrangement of organic units in a SiO2 matrix depends on the mol.

structure of the precursor.)

IT **18923-59-6P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(hydrophilicity studies in organic-inorg. hybrid materials, i.e., [(η6-organosilyl)arene]tricarbonylchromium complexes prepared, show arrangement of organic units in a SiO2 matrix depends on the mol. structure of the precursor.)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

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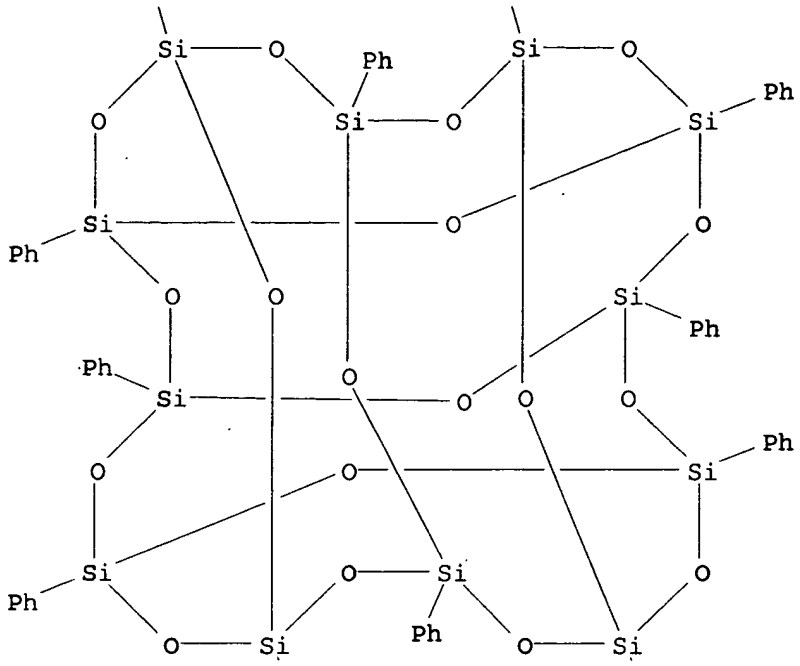

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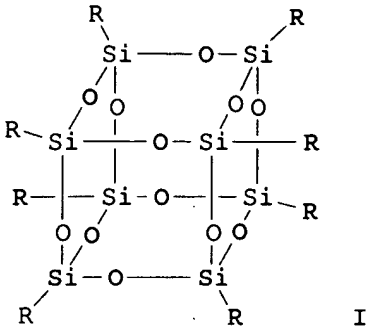
L9 ANSWER 19 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1990:179082 HCAPLUS
DN 112:179082
TI New polyhedral oligosilsesquioxanes via the catalytic hydrogenation of aryl-containing silsesquioxanes
AU Feher, Frank J.; Budzichowski, Theodore A.
CS Dep. Chem., Univ. California, Irvine, CA, 92717, USA
SO Journal of Organometallic Chemistry (1989), 373(2), 153-63
CODEN: JORCAI; ISSN: 0022-328X
DT Journal
LA English
OS CASREACT 112:179082
GI



I

AB The hydrolytic condensation of RSiCl3 (R = benzyl, m-tolyl, 3,5-dimethylphenyl) gives good yields of the corresponding octameric aryl silsesquioxanes (I). A single-crystal x-ray diffraction study of highly soluble I (R = benzyl) reveals that highly efficient crystal packing can be accomplished without the inclusion of solvent or the strong intermol. π-stacking arrangements that normally lead to poor solubility properties. The catalytic hydrogenation of aryl polyhedral oligosilsesquioxanes (POSS) affords high yields of the corresponding aliphatic silsesquioxanes. These new silsesquioxanes display thermal and phys. properties comparable to the corresponding aryl-containing POSS but generally have much greater solubilities in common organic solvents. The catalytic hydrogenation of [Ph12Si12O20] affords iso-[Cy12Si12O20] (Cy = cyclohexyl) which possesses local C2v rather than D6h symmetry.

CC 29-6 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 75

ST oligosilsesquioxane polyhedral; hydrogenation aryl silsesquioxane; crystal structure benzyl silsesquioxane; mol structure benzyl silsesquioxane

IT Hydrogenation
(of aryl-containing silsesquioxanes)

IT Crystal structure
Molecular structure
(of octameric benzyl silsesquioxane)

IT Silsesquioxanes
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyhedral oligo-, preparation and hydrogenation of)

IT Condensation reaction
(hydrolytic, of benzyl- and aryltrichlorosilanes, octameric aryl silsesquioxanes from)

IT 5256-79-1 **18923-59-6** 19086-33-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of)

IT 1333-74-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation, of aryl-containing silsesquioxanes)

IT 770-10-5, Benzyltrichlorosilane
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolytic condensation of, octameric benzyl silsesquioxane from)

IT 2942-84-9, Trichloro(3,5-dimethylphenyl)silane 13688-75-0, Trichloro(m-tolyl)silane
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolytic condensation reaction of, octameric arylsilsesquioxane from)

IT 126362-02-5P 126362-03-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

(Reactant or reagent)
(preparation and hydrogenation of)

IT 3809-28-7P 126362-04-7P 126362-05-8P 126362-06-9P 126362-07-0P
126362-08-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 126362-01-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, crystal structure, and hydrogenation of)

IT **18923-59-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenation of)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

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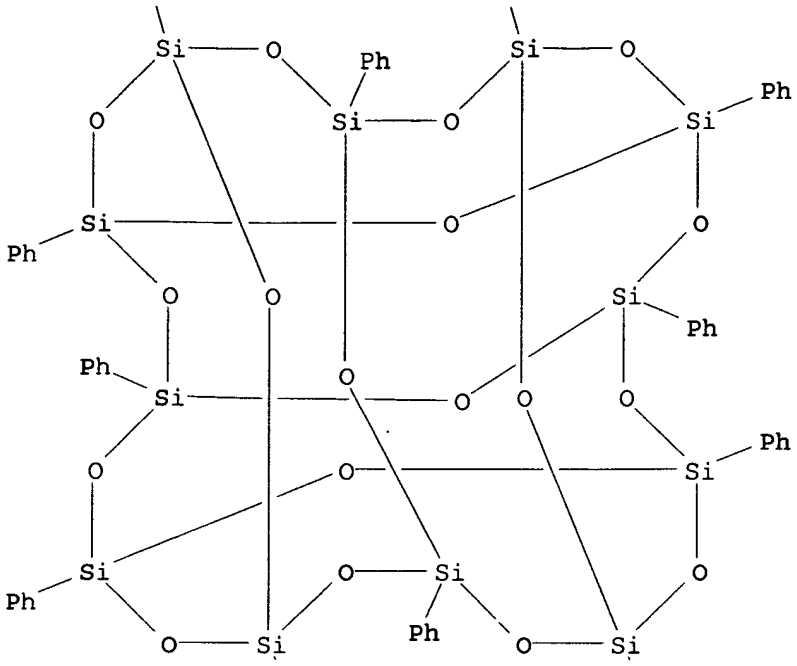

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L9 ANSWER 20 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:163901 HCAPLUS
DN 110:163901
TI Crystal structure of organosilicon compounds. Part LVIII. Dodeca(phenylsilsesquioxane)
AU Shklover, V. E.; Ovchinnikov, Yu. E.; Struchkov, Yu. T.; Levitskii, M. M.; Zhdanov, A. A.
CS Inst. Elementoorg. Soedin., Moscow, USSR
SO Metalloorganicheskaya Khimiya (1988), 1(6), 1273-7
CODEN: MEKHEX; ISSN: 0235-0114
DT Journal
LA Russian
AB Dodeca(phenylsilsesquioxane) is tetragonal, space group P4/n, with a 17.455(2) and c 14.099(2) Å; dc = 1.20 for Z = 2; R = 0.040. The atomic parameters are given. The bond lengths and angles are given.
CC 75-8 (Crystallography and Liquid Crystals)
Section cross-reference(s): 29
ST mol structure phenylsilsesquioxane
IT Crystal structure
Molecular structure
(of dodeca(phenylsilsesquioxane))
IT **18923-59-6**
RL: PRP (Properties)

(crystal structure of)
IT **18923-59-6**
RL: PRP (Properties)
(crystal structure of)
RN 18923-59-6 HCAPLUS
CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

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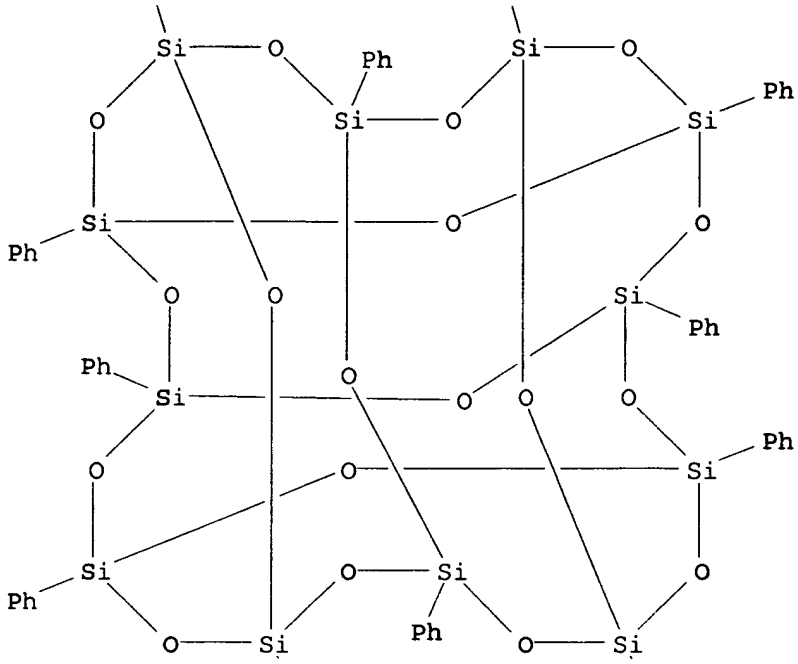

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L9 ANSWER 21 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1981:75064 HCAPLUS
DN 94:75064
TI Dodeca(phenylsilasesquioxane)
AU Clegg, William; Sheldrick, George M.; Vater, Norbert
CS Anorg. Chem. Inst., Univ. Goettingen, Goettingen, D-3400, Fed. Rep. Ger.
SO Acta Crystallographica, Section B: Structural Crystallography and Crystal Chemistry (1980), B36(12), 3162-4
CODEN: ACBCAR; ISSN: 0567-7408
DT Journal
LA English
AB C72H60O18Si12 is tetragonal, space group P4/n, with a 17.449(4) and c 14.156(4) Å; d.(calculated) = 1.194 for Z = 2; final R = 0.077. The (PhSi)12O18 mol. contains 4 10-membered and 4 8-membered Si-O rings and has crystallog. .hivin.4 symmetry. The Si12O18 core approximates to .hivin.42m symmetry.
CC 75-5 (Crystallization and Crystal Structure)
Section cross-reference(s): 29
ST mol structure dodecaphenylsilasesquioxane
IT Crystal structure
Molecular structure
(of dodeca(phenylsilasesquioxane))
IT **18923-59-6**

RL: PRP (Properties)
(structure of)

IT **18923-59-6**
RL: PRP (Properties)
(structure of)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

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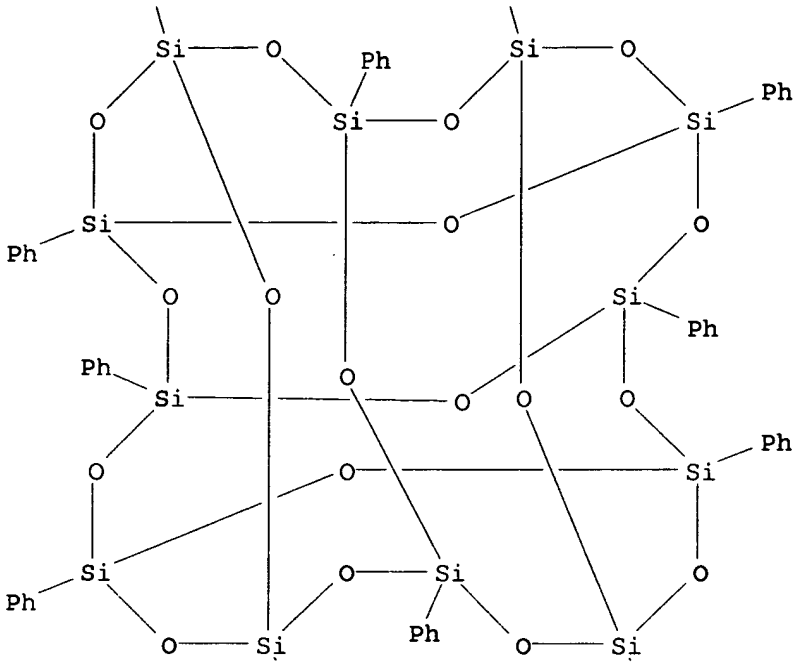

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L9 ANSWER 22 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1964:72719 HCAPLUS
DN 60:72719
OREF 60:12792e-g
TI Intramolecular interactions between nonbonded chromophores. The spectra of some phenylsilanes and siloxanes
AU Brown, John F., Jr.; Prescott, Paul I.
CS Gen. Elec. Res. Lab., Schenectady, NY
SO Journal of the American Chemical Society (1964), 86(7), 1402-9
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA Unavailable
AB The ultraviolet spectra of the polyphenylated silanes and siloxanes, like those of the polyphenylated paraffins and the paracyclophanes, show considerable variations in the appearance of the 250-270-mμ band, particularly in the absolute and relative intensities of the different peaks in the vibrational structure. These variations were studied in detail, with particular emphasis on those in the spectra of the polycyclic phenylsilsesquinoxanes, where the relative orientations of the benzenoid chromophores could be specified quite precisely. All the observed variations in peak heights could be related to variations in the absolute and relative intensities of the 2 overlapping systems which make up the observable 1Lb absorption. In the polyphenylsilsesquinoxanes, these

intensity variations in turn could be accounted for quant. in terms of 2 types of intramol. electrostatic interactions, namely, induced dipole-dipole (or polarizability) interactions, which affect both the vibrationally induced and the substituent-induced components of intensity, and static dipole-induced dipole interactions (field effects), which affect only the substituent-induced component. The spectra of the diphenylsiloxanes differed somewhat from those silanes and siloxanes carrying only 1 Ph group per Si atom, apparently as a result of weak bonding interactions between the 2 Ph groups attached to the same Si atom. Within the series of diphenylsiloxanes, however, the intensity variations were similar to those in the phenylsilsesquinoxanes, and could be related qual. to the same 2 types of intramol. interactions between nonbonded Ph chromophores.

CC 10 (Spectra and Some Other Optical Properties)

IT Molecules
(interactions of, of phenylsilanes and phenylsiloxanes, spectra and)

IT Siloxanes
(methyl phenyl, spectra of, intramol. interactions and)

IT Spectra, visible and ultraviolet
(of phenylsilanes and phenylsiloxanes, in tramol. interactions in relation to)

IT Siloxanes
(phenyl, spectrum of, intramol. interactions and)

IT 18923-60-9, Heptacyclo[13.9.1.13,13.15,11.17,21.19,19.117,23]dodecasiloxane, dodecaphenyl-
(spectrum of intramol. interactions and)

IT 512-63-0, Cyclotrisiloxane, hexaphenyl- 546-44-1, Trisiloxane, 1,1,1,3,5,5,5-heptamethyl-3-phenyl- 546-56-5, Cyclotetrasiloxane, octaphenyl- 768-32-1, Silane, trimethylphenyl- 797-77-3, Trisiloxane, 1,1,1,5,5,5-hexamethyl-3,3-diphenyl- 1438-86-4, Cyclotrisiloxane, 2,2-dimethyl-4,4,6,6-tetraphenyl- 1693-41-0, Cyclohexasiloxane, 2,2,8,8-tetramethyl-4,4,6,6,10,10,12,12-octaphenyl- 1693-42-1, Cyclopentasiloxane, 2,2,4,4-tetramethyl-6,6,8,8,10,10-hexaphenyl- 1693-46-5, Cyclotetrasiloxane, 2,2-dimethyl-4,4,6,6,8,8-hexaphenyl- 2097-19-0, 2,8,9-Trioxa-5-aza-1-silabicyclo[3.3.3]undecane, 1-phenyl- 2116-84-9, Trisiloxane, 1,1,1,5,5,5-hexamethyl-3-phenyl-3-(trimethylsiloxy)- 5256-79-1, Pentacyclo[9.5.1.13,9.15,15.17,13]octasiloxane, octaphenyl- 18758-92-4, Tetrasiloxane, 1,1,1,7,7,7-hexamethyl-3,3,5,5-tetraphenyl- 18840-05-6, Pentasiloxane, 1,1,1,9,9,9-hexamethyl-3,3,5,5,7,7-hexaphenyl- 18851-18-8, Hexacyclo[9.9.1.13,9.15,17.17,15.113,19]-decasiloxane, decaphenyl- **18923-59-6**, Heptacyclo[11.11.1.13,11.15,21.17,19.19,17.115,23]dodecasiloxane, dodecaphenyl-
(spectrum of, intramol. interactions and)

IT **18923-59-6**, Heptacyclo[11.11.1.13,11.15,21.17,19.19,17.115,23]dodecasiloxane, dodecaphenyl-
(spectrum of, intramol. interactions and)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

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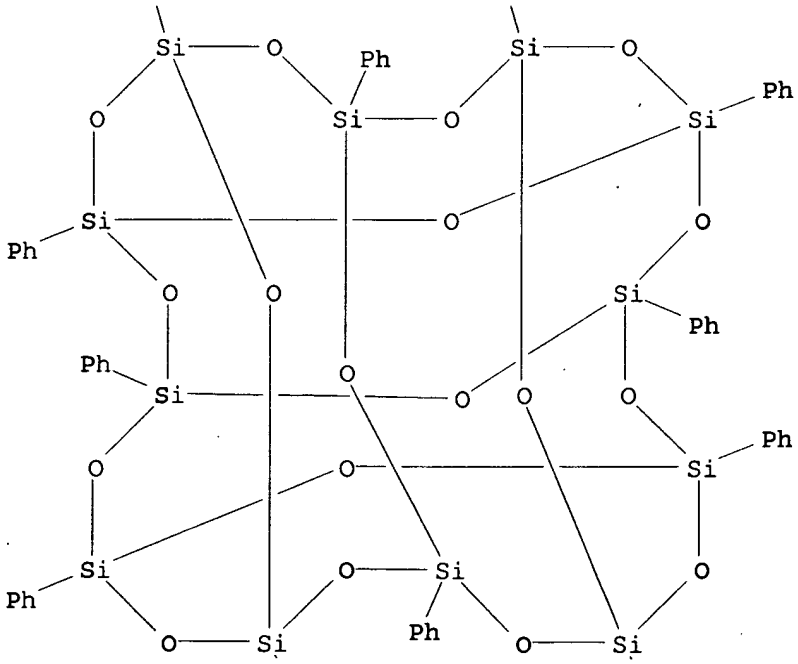

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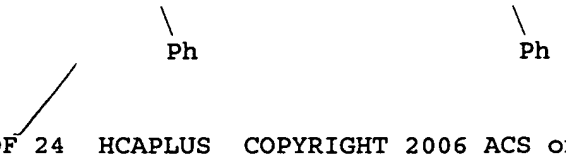

L9 ANSWER 23 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1962:31558 HCAPLUS
DN 56:31558
OREF 56:6001d-e
TI Reduction of nitroarylalkoxysilanes
IN Bailey, Donald L.; Pope, Enrico J.; Kanner, Bernard
PA Union Carbide Corp.
DT Patent
LA Unavailable

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3007957		19611107	US 1959-840791	19590918

AB O2NC6H4SiMe(OEt)2 (o, m, and p mixture) (128.5 g.), 75 ml. absolute EtOH, 20 g. of the Na form of Zeolite A, and 0.75 g. PtO2 were placed in a 300 ml. stainless steel pressure vessel, the vessel purged with N and H, pressured to 500 lb./sq. in. 2 hrs., the contents filtered, stripped of EtOH, and the residue distilled to give 38% of the amino analog, b1 115-17°, n25D 1.5119. O2NC6H4Si(OEt)3 was similarly reduced to the amine in 85% yield, b0.3 130°, n25D 1.4964.
CC 33 (Organometallic and Organometalloidal Compounds)
IT Reduction
(of alkoxynitroaryl silanes)
IT 7803-62-5, Silane
(alkoxy derivs.)
IT 7803-62-5, Silane
(alkoxynitroaryl derivs., reduction of)
IT 5256-79-1, Octasilsesquioxane, octaphenyl- **18923-59-6**, Dodecasilsesquioxane, dodecaphenyl-
(preparation of)
IT 26571-95-9, Silane, diethoxymethyl(nitrophenyl)- 30110-69-1, Silane, triethoxy(nitrophenyl)-
(reduction of)
IT **18923-59-6**, Dodecasilsesquioxane, dodecaphenyl-
(preparation of)
RN 18923-59-6 HCAPLUS
CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

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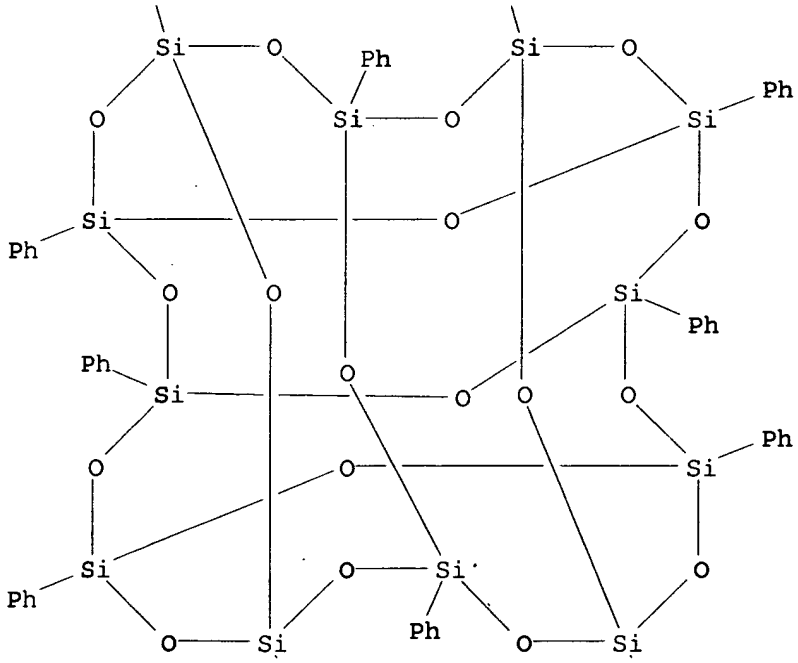

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L9 ANSWER 24 OF 24 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1962:31557 HCAPLUS
DN 56:31557
OREF 56:6001b-d
TI Phenylpolysiloxanes and polymers therefrom
IN Brown, John F., Jr.
PA General Electric Co.
DT Patent
LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3000858		19610919	US 1959-788067	19590121
	GB 892985			GB	

AB A process is given for the preparation of a phenyl silsesquioxane which is fusible and can be converted without catalyst to an infusible higher polymer by heating at 350-550°. The high polymer is heat resistant and useful as insulation for conductors even at elevated temps. Phenyltrichlorosilane (106.5 g.) in 500 ml. C6H6 is shaken with H2O until hydrolysis is complete, the product washed with H2O, 16.6 ml. 30% benzyltrimethylammonium hydroxide is added, the mixture refluxed 4 hrs., cooled, kept 96 hrs., the slurry heated again to reflux 24 hrs., cooled, and filtered to give 57 g. octaphenylsilsesquioxane. Also prepared was dodecaphenylsilsesquioxane, m. 380-90°.

CC 33 (Organometallic and Organometalloidal Compounds)

IT Silsesquioxanes, phenyl
(manufacture and polymerization of)

IT 7803-62-5, Silane
(alkoxynitroaryl derivs., reduction of)

IT 5256-79-1, Octasilsesquioxane, octaphenyl- **18923-59-6**, Dodecasilsesquioxane, dodecaphenyl-
(preparation of)

IT 26571-95-9, Silane, diethoxymethyl(nitrophenyl)-
(reduction of)

IT **18923-59-6**, Dodecasilsesquioxane, dodecaphenyl-
(preparation of)

RN 18923-59-6 HCAPLUS

CN Heptacyclo[11.11.1.13,9.15,21.17,19.111,17.115,23]dodecasiloxane, dodecaphenyl- (9CI) (CA INDEX NAME)

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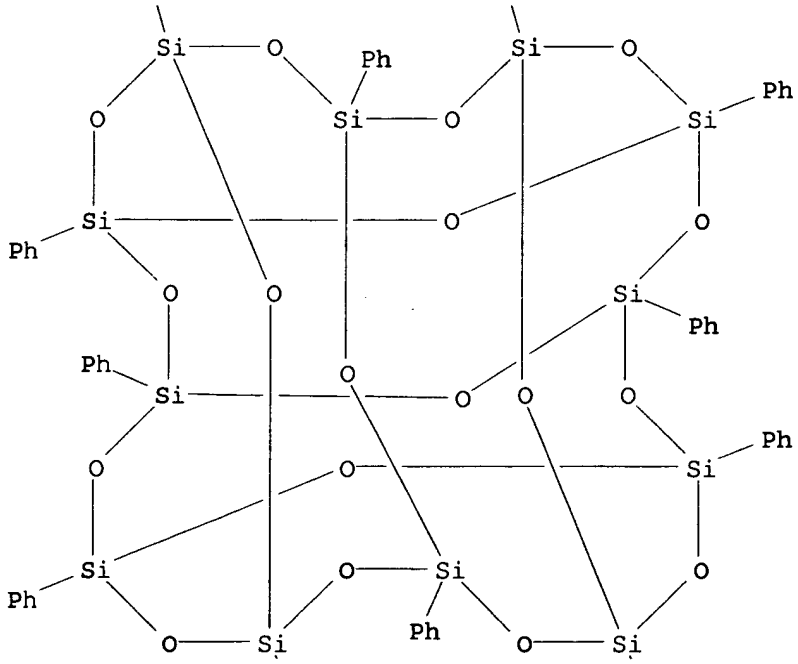

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